WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Williamsburg, Rocking... **Sampling Date:** 2018-June-21
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-77_PFO-1
Investigator(s): Jeremy Hummel, Joe Roy **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Flood Plain **Local relief (concave, convex, none):** Undulating **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.3051278 **Long:** -79.5881405 **Datum:** WGS84
Soil Map Unit Name: Hatboro silt loam **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):	5
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. A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-C18-77_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	75	Yes	FAC
2.			
3.			
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*	60	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	60	= Total Cover	
50% of total cover: 30	20% of total cover: 12		

Herb Stratum (Plot size: 5)			
1. *Microstegium vimineum*	40	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	
50% of total cover: 20	20% of total cover: 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:	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	60	x 1 =	60
FACW species	0	x 2 =	0
FAC species	115	x 3 =	345
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	175	(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-C18-77_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 - 18	2.5Y 3/1	80	5YR 6/8	20	C	M/PL	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. The criterion for hydric soil is met.

Hydrology Photos

Soil Photos

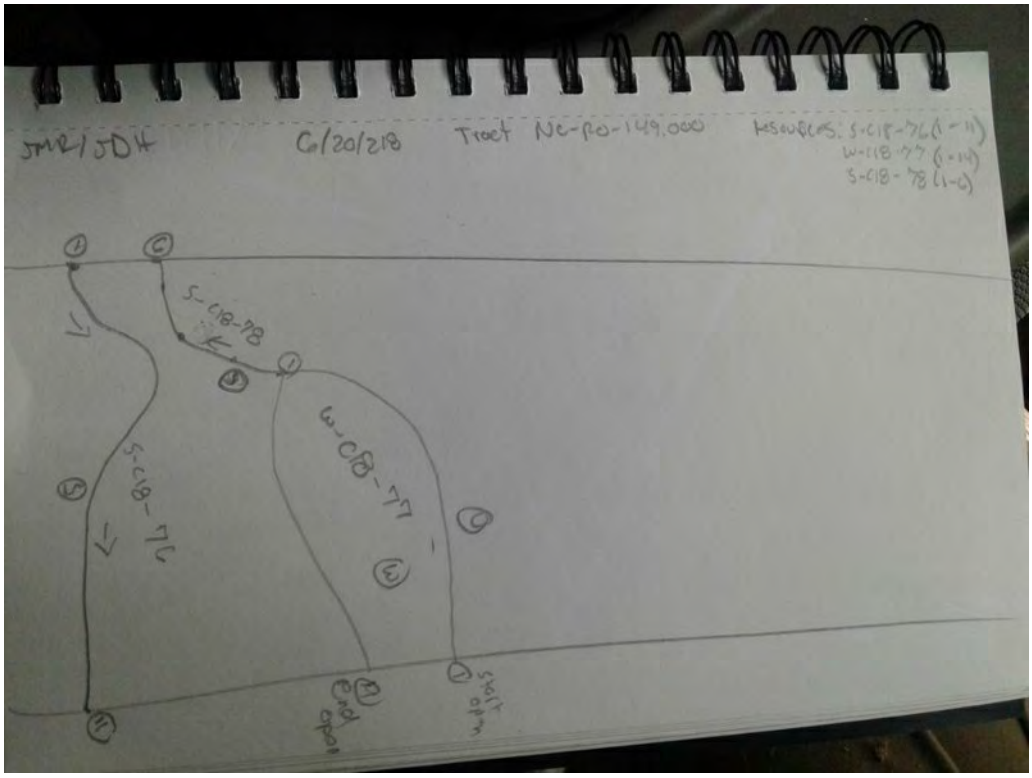
Photo of Sample Plot North

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:** Williamsburg, Rocking... **Sampling Date:** 2018-June-21
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-77_UPL-2
Investigator(s): Jeremy Hummel, Joe Roy **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:** 36.3050759 **Long:** -79.5879687 **Datum:** WGS84
Soil Map Unit Name: Siloam 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):	
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-C18-77_UPL-2

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus alba*	40	Yes	FACU
2. *Fagus grandifolia*	30	Yes	FACU
3. *Liriodendron tulipifera*	30	Yes	FACU
4.			
5.			
6.			
7.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Carpinus caroliniana*	70	Yes	FAC
2. *Ulmus rubra*	30	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

Herb Stratum (Plot size: 5)			
1. *Viola hirsutula*	75	Yes	FACU
2. *Polystichum acrostichoides*	15	No	FACU
3. *Athyrium asplenioides*	10	No	FAC
4.			
5.			
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.			
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	110	x 3 =	330
FACU species	190	x 4 =	760
UPL species	0	x 5 =	0
Column Totals	300	(A)	1090 (B)

Prevalence Index = B/A = 3.6

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-C18-77_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 - 2	10YR 4/3	100					Clay Loam	
2 - 18	10YR 6/6	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:

The criterion for hydric soil is not met.

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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Reidsville, Rockingham… **Sampling Date:** 2018-May-25
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-62_PSS-1
Investigator(s): Laura Giese, Tony Tredway, S **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:** 36.288915 **Long:** -79.5716658 **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):	7
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:

The criterion for wetland hydrology is met. 1" standing water in low spots.

Sampling Point: W-A18-62_PSS-1

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

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. *Salix nigra*	30	Yes	OBL
2. *Magnolia virginiana*	5	No	FACW
3. *Sambucus nigra*	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. *Juncus effusus*	25	Yes	FACW
2. *Scirpus atrovirens*	20	Yes	OBL
3. *Typha latifolia*	10	No	OBL
4. *Carex scoparia*	10	No	FACW
5. *Lonicera japonica*	5	No	FACU
6. *Ludwigia alternifolia*	5	No	FACW
7. *Boehmeria cylindrica*	5	No	FACW
8.			
9.			
10.			
11.			
	80	= Total Cover	
50% of total cover: 40	20% of total cover: 16		

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	60	x 1 =	60
FACW species	50	x 2 =	100
FAC species	5	x 3 =	15
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	120	(A)	195 (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.)

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

SOIL

Sampling Point: W-A18-62_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 - 1	10YR 4/2	100					Silt Loam	
1 - 13	2.5YR 5/2	90	7.5YR 5/8	10	C	PL	Clay Loam	
13 - 18	2.5Y 5/2	70	7.5YR 4/6	20	C	M	Clay	
13 - 18	10Y 6/1		10Y 6/1	10	D	M	Clay	
18 - 22	10Y 6/1	70	7.5YR 4/6	30	C	M	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:

No positive indication of hydric soils was observed. The criterion for hydric soil is met.

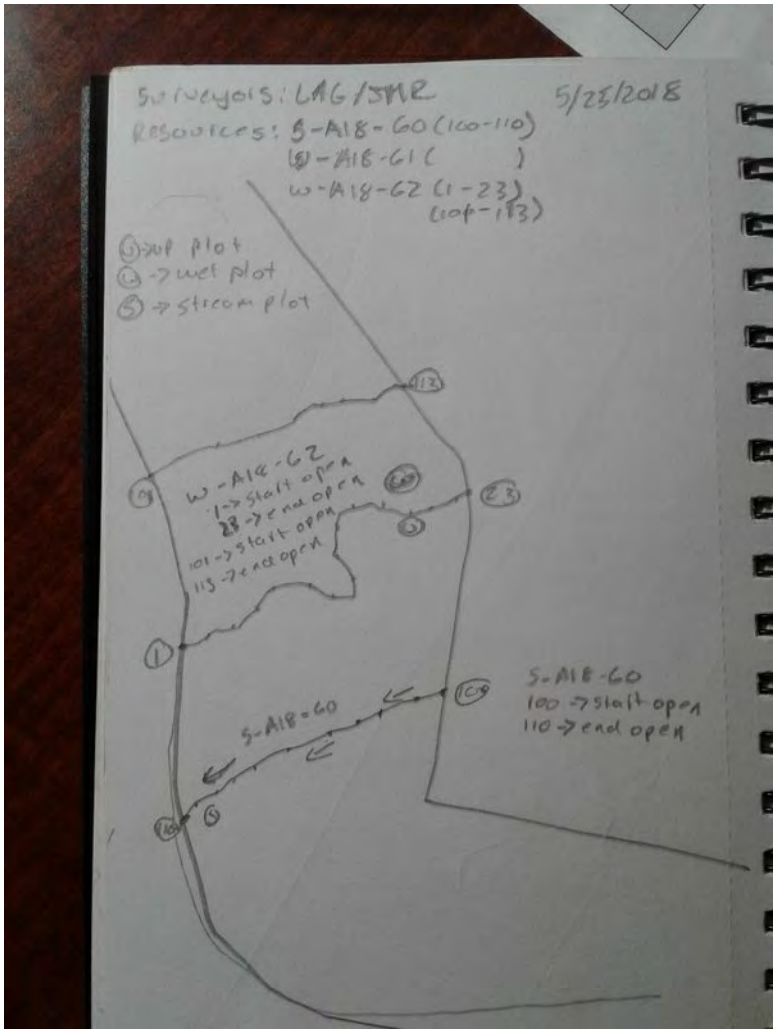
Photo of Sample Plot North

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:** Reidsville, Rockingham… **Sampling Date:** 2018-May-25
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-62_UPL-1
Investigator(s): James Bolduc, Tony Tredway, Simon, Joe, Laura **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Flood Plain **Local relief (concave, convex, none):** Undulating **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2888632 **Long:** -79.5716163 **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. forestry disturbance.

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):	_____

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

Sampling Point: W-A18-62_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 4		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Parthenocissus quinquefolia*	80	Yes	FACU
2. *Rubus allegheniensis*	20	No	FACU
3. *Toxicodendron radicans*	20	No	FAC
4. *Lonicera morrowii*		No	FACU
5.			
6.			
7.			
8.			
9.			
	120	= Total Cover	
50% of total cover: 60	20% of total cover: 24		

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.			
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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
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-A18-62_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 - 8	2.5Y 5/3	95	7.5YR 5/6	5	C	M	Silty Clay Loam	
8 - 18	10YR 6/1	80	7.5YR 5/6	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:

A positive indication of hydric soil was observed.

Vegetation Photos

Soil Photos

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:** Reidsville, Rockingham… **Sampling Date:** 2018-May-25
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-61_PEM-1
Investigator(s): James Bolduc, Tony Tredway, Simon, Joe, Laura **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:** 36.2881393 **Long:** -79.5718388 **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):	
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:

Sampling Point: W-A18-61_PEM-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	30	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
50% of total cover: 15	20% of total cover: 6		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer negundo*	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. *Phalaris arundinacea*	50	Yes	FACW
2. *Cyperus acuminatus*	20	Yes	OBL
3. *Juncus effusus*	20	Yes	FACW
4. *Eupatorium perfoliatum*	5	No	FACW
5. *Rumex verticillatus*	5	No	OBL
6. *Carex lurida*	5	No	OBL
7. *Toxicodendron radicans*	5	No	FAC
8. *Boehmeria cylindrica*	5	No	FACW
9.			
10.			
11.			
	115	= Total Cover	
50% of total cover: 57.5	20% of total cover: 23		

Woody Vine Stratum (Plot size: 30)			
1. *Lonicera morrowii*	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:	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	30	x 1 =	30
FACW species	80	x 2 =	160
FAC species	45	x 3 =	135
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	160	(A)	345 (B)

Prevalence Index = B/A = 2.2

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-A18-61_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 4/4	95	7.5YR 5/6	5	C	M	Sandy Loam	
6 - 10	2.5Y 6/2	90	7.5YR 5/6	10	C	M	Loamy Sand	
10 - 18	10YR 5/1	90	7.5YR 5/6	10	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:

A positive indication of hydric soil was observed.

Vegetation Photos

Soil Photos

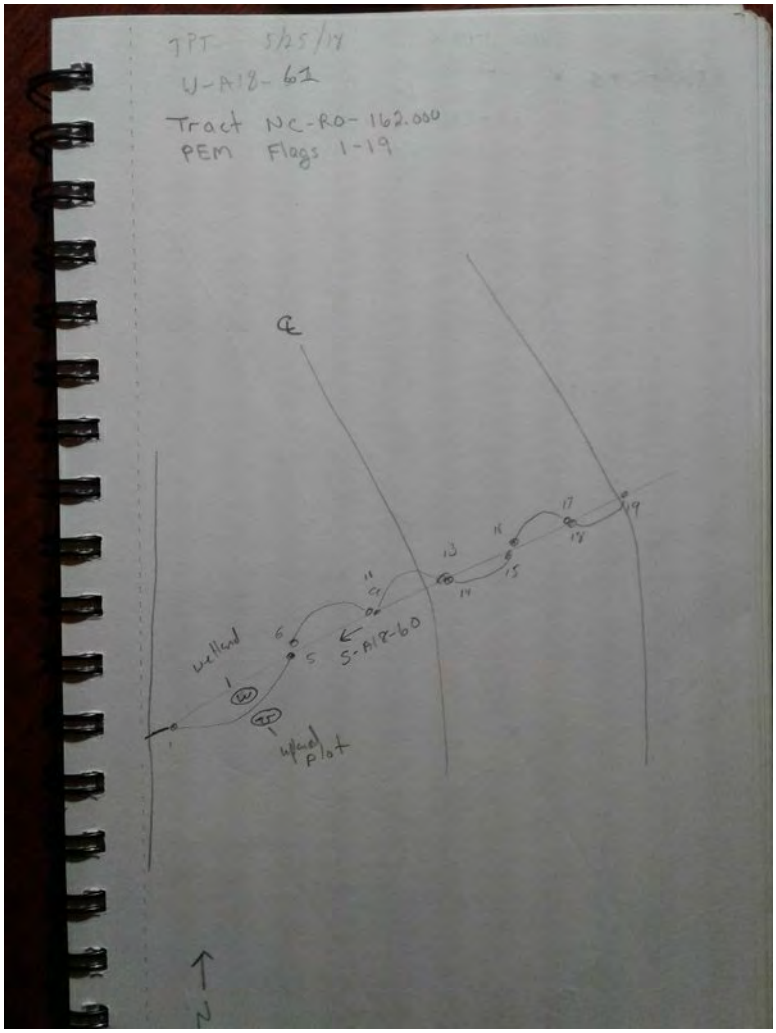
Photo of Sample Plot North

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:** Reidsville, Rockingham… **Sampling Date:** 2018-May-25
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-61_UPL-1
Investigator(s): James Bolduc, Tony Tredway, Simon, Joe, Laura **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Plain **Local relief (concave, convex, none):** None **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2881537 **Long:** -79.5716808 **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.

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):	_____

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

Sampling Point: W-A18-61_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
50% of total cover: 5	20% of total cover: 2		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer negundo*	30	Yes	FAC
2. *Corylus cornuta*	20	Yes	FACU
3. *Prunus serotina*	20	Yes	FACU
4. *Quercus phellos*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
	80	= Total Cover	
50% of total cover: 40	20% of total cover: 16		

Herb Stratum (Plot size: 5)			
1. *Lonicera japonica*	80	Yes	FACU
2. *Parthenocissus quinquefolia*	10	No	FACU
3. *Smilax rotundifolia*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95	= Total Cover	
50% of total cover: 47.5	20% of total cover: 19		

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	0	x 2 =	0
FAC species	55	x 3 =	165
FACU species	130	x 4 =	520
UPL species	0	x 5 =	0
Column Totals	185	(A)	685 (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-A18-61_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					Fine Sandy Loam	
3 - 10	10YR 5/4	100					Silt Loam	
10 - 20	10YR 5/3	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:

No positive indication of hydric soils was observed.

Vegetation Photos

Soil Photos

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:** Reidsville, Rockingham… **Sampling Date:** 2018-May-25
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-57_PEM-1
Investigator(s): Laura Giese, Joe Roy **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Toe **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2827944 **Long:** -79.5638989 **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):	_____
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:

The criterion for wetland hydrology is met.

Sampling Point: W-A18-57_PEM-1

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

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. *Eleocharis obtusa*	40	Yes	OBL
2. *Persicaria maculosa*	15	Yes	FACW
3. *Bidens cernua*	15	Yes	OBL
4. *Juncus effusus*	10	No	FACW
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: 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	55	x 1 =	55
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	80	(A)	105 (B)

Prevalence Index = B/A = 1.3

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-A18-57_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 - 6	10YR 4/2	90	10YR 5/8	10	C	M	Sandy Loam	
6 - 15	10YR 4/1	95	10YR 5/8	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
Depth (inches): 15

Hydric Soil Present? Yes ☑ No ☐

Remarks:

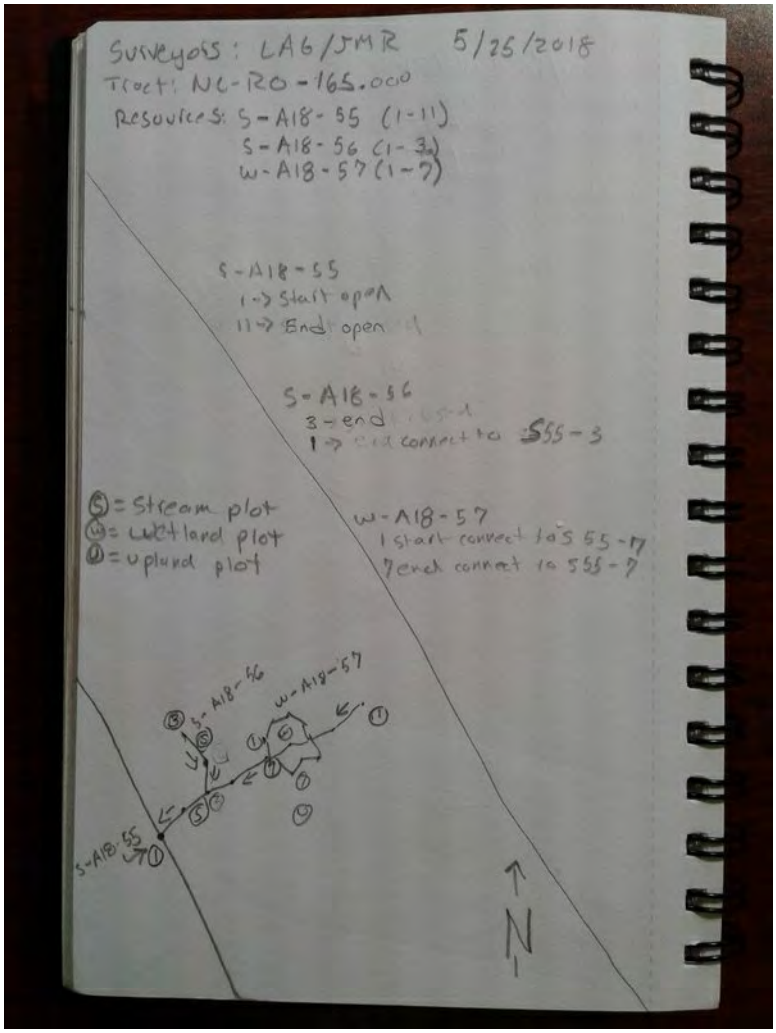
Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

Photo of Sample Plot Sketch



WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Reidsville, Rockingham… **Sampling Date:** 2018-May-25
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-57_UPL-1
Investigator(s): Laura Giese, Joe Roy **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Convex **Slope (%):** 5 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2827399 **Long:** -79.5639716 **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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-57_UPL-1

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

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. *Poa pratensis*	55	Yes	FACU
2. *Trifolium repens*	15	Yes	FACU
3. *Solanum carolinense*	15	Yes	FACU
4. *Solidago altissima*	10	No	FACU
5. *Juncus tenuis*	10	No	FAC
6. *Solidago rugosa*	5	No	FAC
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:	0	(A)
Total Number of Dominant Species Across All Strata:	3	(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	15	x 3 =	45
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals	110	(A)	425 (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.)

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

SOIL

Sampling Point: W-A18-57_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 - 3	10YR 3/4	100					Sandy Loam	
3 - 12	10YR 4/6	100					Sand	
12 - 16	10YR 4/6	95	10YR 5/3	5	D	M	Sand	
16 - 22	7.5YR 5/8	100					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:

No positive indication of hydric soils was observed.

Photo of Sample Plot East

Photo of Sample Plot West

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Reidsville, Rockingham… **Sampling Date:** 2018-May-25
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-59_PEM-1
Investigator(s): Laura Giese, Joe Roy, Simon King **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Concave **Slope (%):** 5 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2823766 **Long:** -79.5639157 **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):	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.

Sampling Point: W-A18-59_PEM-1

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

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. *Eleocharis obtusa*	35	Yes	OBL
2. *Juncus effusus*	25	Yes	FACW
3. *Carex lurida*	20	Yes	OBL
4. *Carex vulpinoidea*	10	No	OBL
5. *Scirpus atrovirens*	10	No	OBL
6. *Persicaria sagittata*	10	No	OBL
7. *Mimulus ringens*	10	No	OBL
8. *Murdannia keisak*	10	No	OBL
9.			
10.			
11.			
	130	= Total Cover	
50% of total cover: 65	20% of total cover: 26		

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	105	x 1 =	105
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	130	(A)	155 (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.)

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

SOIL

Sampling Point: W-A18-59_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 4/2	90	5YR 4/6	10	C	M/PL	Silt Loam	
5 - 14	10YR 4/2	95	10YR 5/4	5	C	M	Silt Loam	
14 - 20	10YR 4/1	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:

A positive indication of hydric soil was observed.

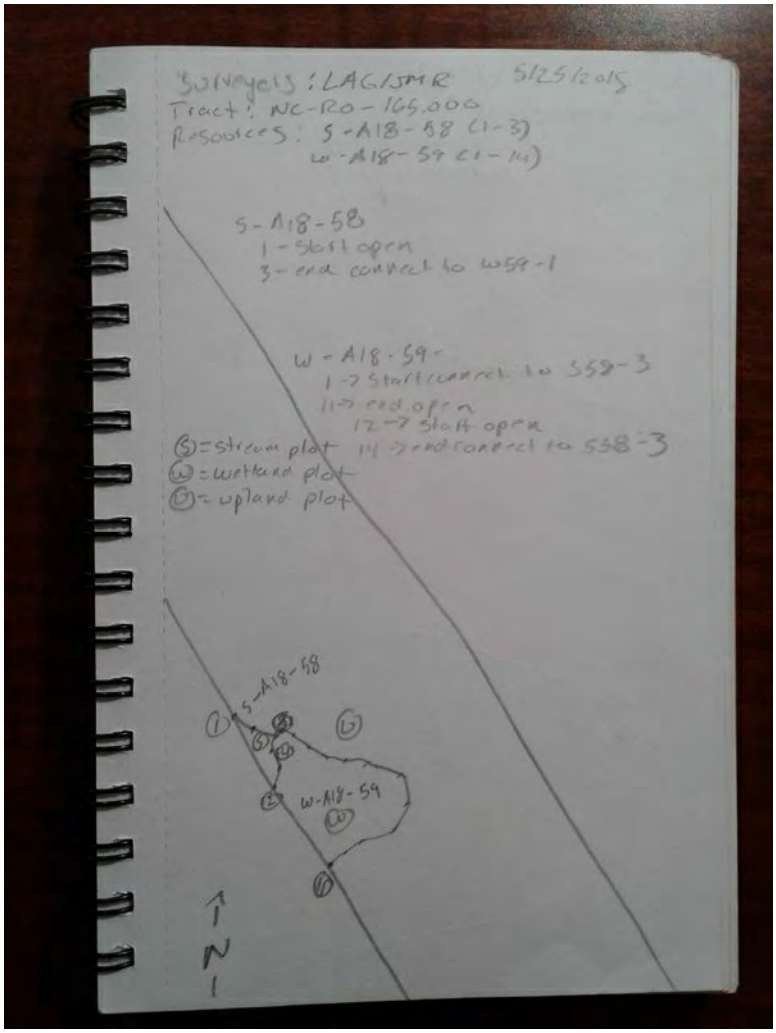
Photo of Sample Plot North

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:** Reidsville, Rockingham… **Sampling Date:** 2018-May-25
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-59_UPL-1
Investigator(s): Laura Giese, Joe Roy **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Convex **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2825012 **Long:** -79.5639158 **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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-59_UPL-1

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

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. *Poa pratensis*	30	Yes	FACU
2. *Juncus tenuis*	30	Yes	FAC
3. *Potentilla simplex*	5	No	FACU
4. *Solanum carolinense*	5	No	FACU
5. *Plantago lanceolata*	5	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
	75	= Total Cover	
50% of total cover: 37.5	20% of total cover: 15		

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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	40	x 4 =	160
UPL species	5	x 5 =	25
Column Totals	75	(A)	275 (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-A18-59_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 - 6	5YR 4/6	60					Fine Sandy Loam	
0 - 6	10YR 6/8	40						
6 - 15	10YR 6/8	90	7.5YR 4/4	5	C	M	Loam	Mn soft mass
6 - 15			10YR 5/2	5	D	M		
15 - 20	10YR 5/8	85	7.5YR 4/4	10	C	M	Clay Loam	
15 - 20			10YR 6/2	5	D	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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Williamsburg, Rocking... **Sampling Date:** 2018-June-23
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-184_PEM-1
Investigator(s): Laura Giese, Jake Brillo, Susan Thebert **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.275936 **Long:** -79.5590737 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam (HeB) 2 to 8 percent slopes **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):	_____
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. Soil is episaturated. Saturated from 0-3".

Sampling Point: W-A18-184_PEM-1

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

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. *Symphyotrichum puniceum*	20	Yes	OBL
2. *Juncus effusus*	15	Yes	FACW
3. *Carex crinita*	15	Yes	OBL
4. *Impatiens capensis*	10	No	FACW
5. *Alnus serrulata*	10	No	OBL
6. *Persicaria sagittata*	10	No	OBL
7. *Sagittaria latifolia*	5	No	OBL
8.			
9.			
10.			
11.			
	85	= Total Cover	
50% of total cover: 42.5	20% of total cover: 17		

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	60	x 1 =	60
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	85	(A)	110 (B)

Prevalence Index = B/A = 1.3

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-A18-184_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 3/2	93	10YR 4/1	5	D	M	Silt Loam	
0 - 3			10YR 4/6	2	C	M		
3 - 11	2.5Y 5/1	90	7.5YR 5/8	10	C	M/PL	Silt Loam	
11 - 20	N 5/	90	7.5YR 5/8	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:

A positive indication of hydric soil was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

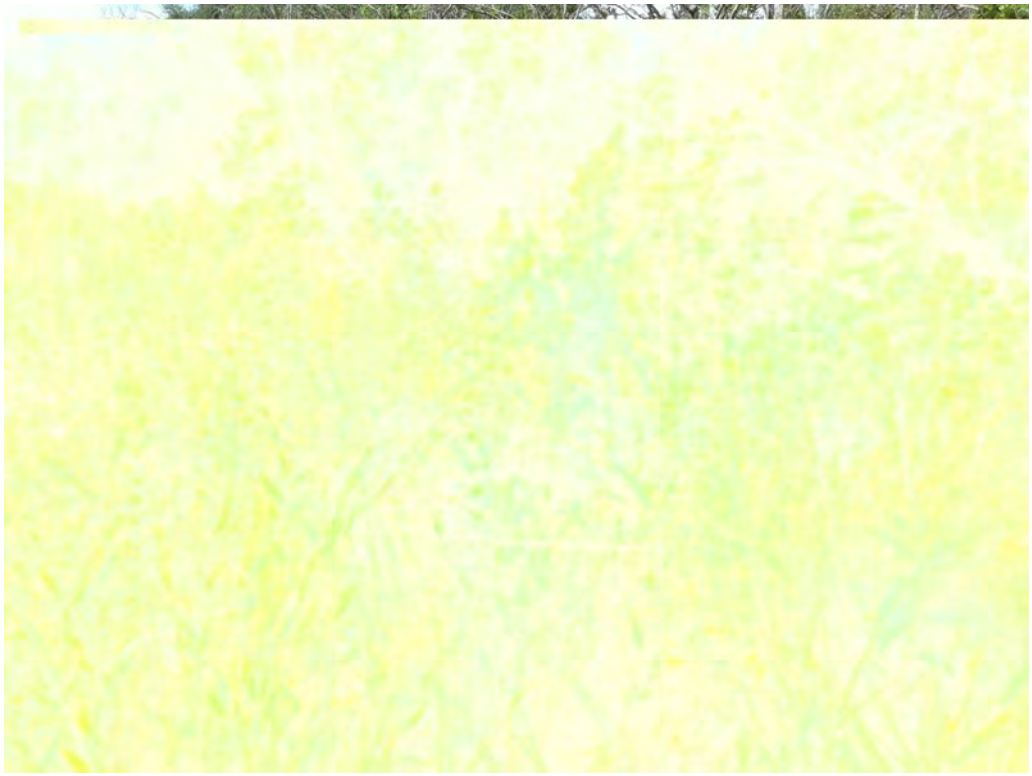
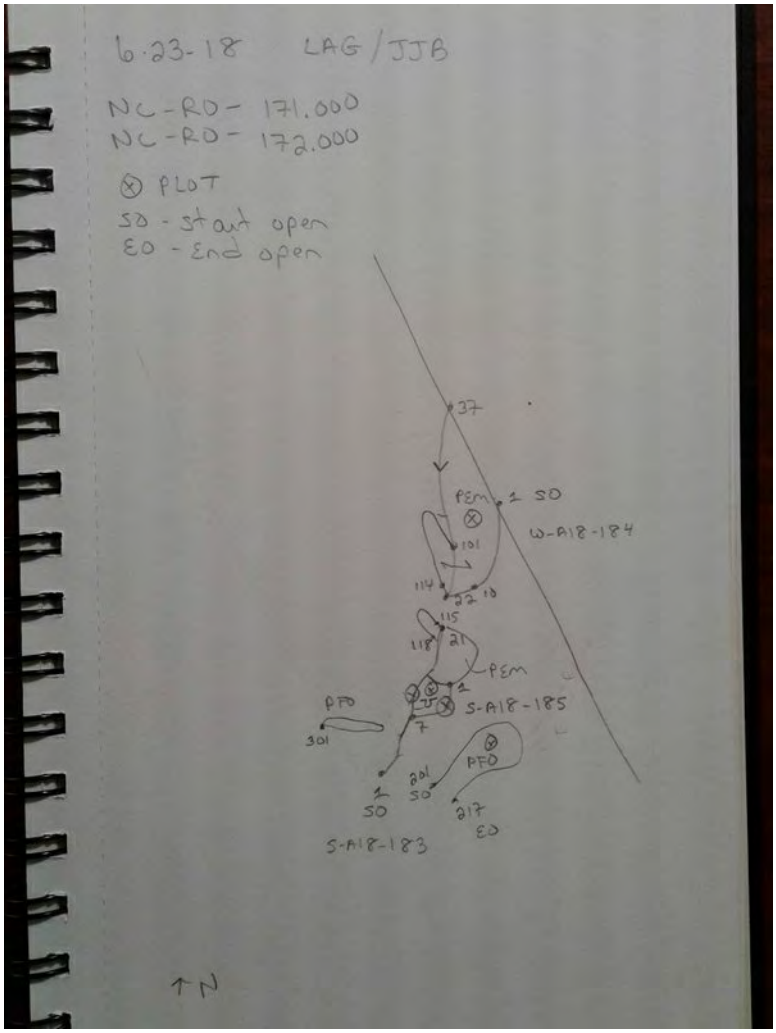


Photo of Sample Plot West

Photo of Sample Plot Sketch



WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Gibsonville, Rockingha… **Sampling Date:** 2018-June-23

Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-184_PFO-1

Investigator(s): Laura Giese, Jake Brillo, Susan Thebert **Section, Township, Range:** _____

Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5

Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2748826 **Long:** -79.558959 **Datum:** WGS84

Soil Map Unit Name: Helena Sandy loam (HeB) 2 to 8 percent slopes **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):	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.

Sampling Point: W-A18-184_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	30	Yes	FAC
2. *Fraxinus caroliniana*	20	Yes	OBL
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
50% of total cover: 25	20% of total cover: 10		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Ilex verticillata*	35	Yes	FACW
2. *Fraxinus caroliniana*	10	Yes	OBL
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. *Carex crinita*	10	Yes	OBL
2. *Juncus effusus*	10	Yes	FACW
3. *Impatiens capensis*	10	Yes	FACW
4. *Glyceria striata*	10	Yes	OBL
5. *Arisaema triphyllum*	10	Yes	FACW
6. *Osmunda spectabilis*	10	Yes	OBL
7. *Eupatorium perfoliatum*	5	No	FACW
8. *Symphyotrichum puniceum*	5	No	OBL
9.			
10.			
11.			
	70	= Total Cover	
50% of total cover: 35	20% of total cover: 14		

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:	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	65	x 1 =	65
FACW species	70	x 2 =	140
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	165	(A)	295 (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 (>50% of dominant species indexed as OBL, FACW, or FAC).

SOIL

Sampling Point: W-A18-184_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	95	10YR 5/6	5	C	M	Mucky Silt Loam	
4 - 18	5Y 3/1	98	2.5Y 5/1	2	D	M	Mucky 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.

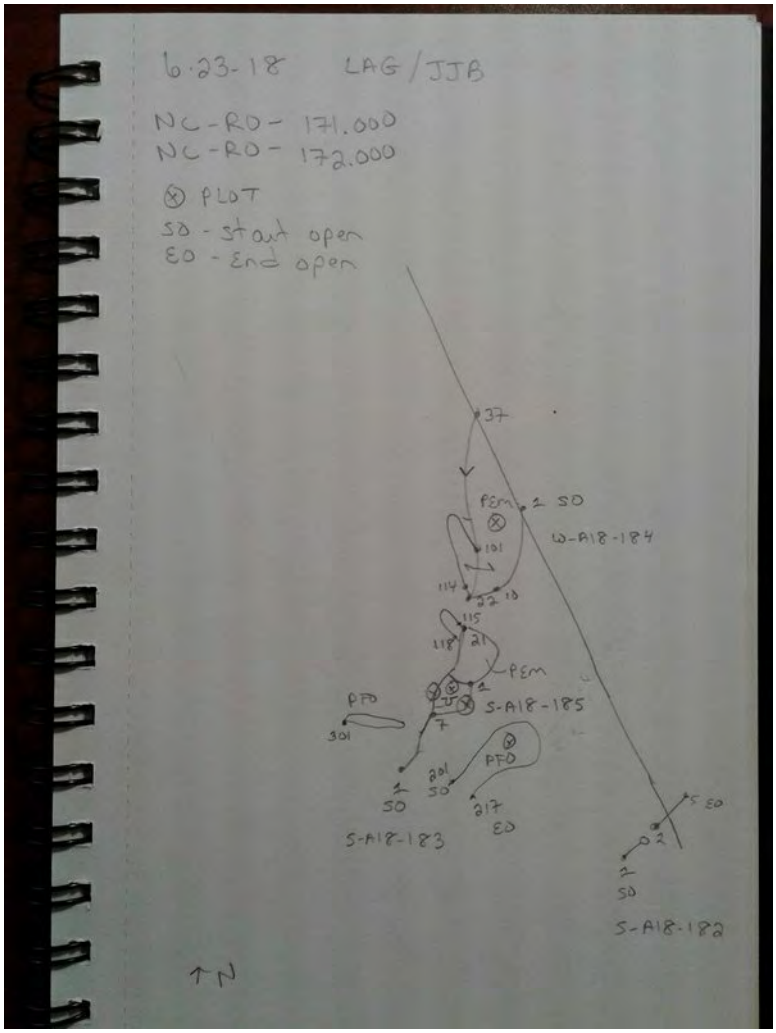
Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

Photo of Sample Plot Sketch



WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Gibsonville, Rockingha… **Sampling Date:** 2018-June-23
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-184_UPL-1
Investigator(s): Laura Giese, Jake Brillo **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Knoll **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2750484 **Long:** -79.5591735 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam (HeB) 2 to 8 percent slopes **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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-184_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	10	Yes	FAC
2. *Ilex opaca*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 4		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Ilex opaca*	10	Yes	FACU
2. *Quercus alba*	10	Yes	FACU
3. *Juniperus virginiana*	10	Yes	FACU
4. *Carpinus caroliniana*	10	Yes	FAC
5.			
6.			
7.			
8.			
9.			
	40	= Total Cover	
50% of total cover: 20	20% of total cover: 8		

Herb Stratum (Plot size: 5)			
1. *Quercus alba*	10	Yes	FACU
2. *Prunus serotina*	5	Yes	FACU
3. *Vitis aestivalis*	5	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 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:	2	(A)
Total Number of Dominant Species Across All Strata:	9	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	22.2	(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	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals	80	(A)	300 (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.)

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

SOIL

Sampling Point: W-A18-184_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 - 15	5YR 4/6	100					Silt Loam	
15 - 18	10YR 5/2	95	5YR 4/6	5	C	M	Silt Loam	
18 - 22	2.5Y 5/1	95	5YR 4/6	5	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 South

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Williamsburg, Rocking... **Sampling Date:** 2018-June-01

Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-20_PFO-1

Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **Section, Township, Range:** _____

Landform (hillslope, terrace, etc.): Flood Plain **Local relief (concave, convex, none):** Concave **Slope (%):** 5 to 10

Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2564083 **Long:** -79.5455072 **Datum:** WGS84

Soil Map Unit Name: Pacolet Sandy clay 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):	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:

A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-C18-20_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	30	Yes	FAC
2. *Nyssa sylvatica*	20	Yes	FAC
3. *Carpinus caroliniana*	15	Yes	FAC
4.			
5.			
6.			
7.			
	65	= Total Cover	

50% of total cover: 32.5 20% of total cover: 13

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*	70	Yes	FACW
2. *Symphyotrichum elliottii*	15	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85	= Total Cover	

50% of total cover: 42.5 20% of total cover: 17

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	15	x 1 =	15
FACW species	70	x 2 =	140
FAC species	65	x 3 =	195
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	150	(A)	350 (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-C18-20_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 - 18	10YR 6/2	60	7.5YR 4/6	40	C	M/PL	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:

A positive indication of hydric soil was observed.

Hydrology Photos

Vegetation Photos

Soil Photos

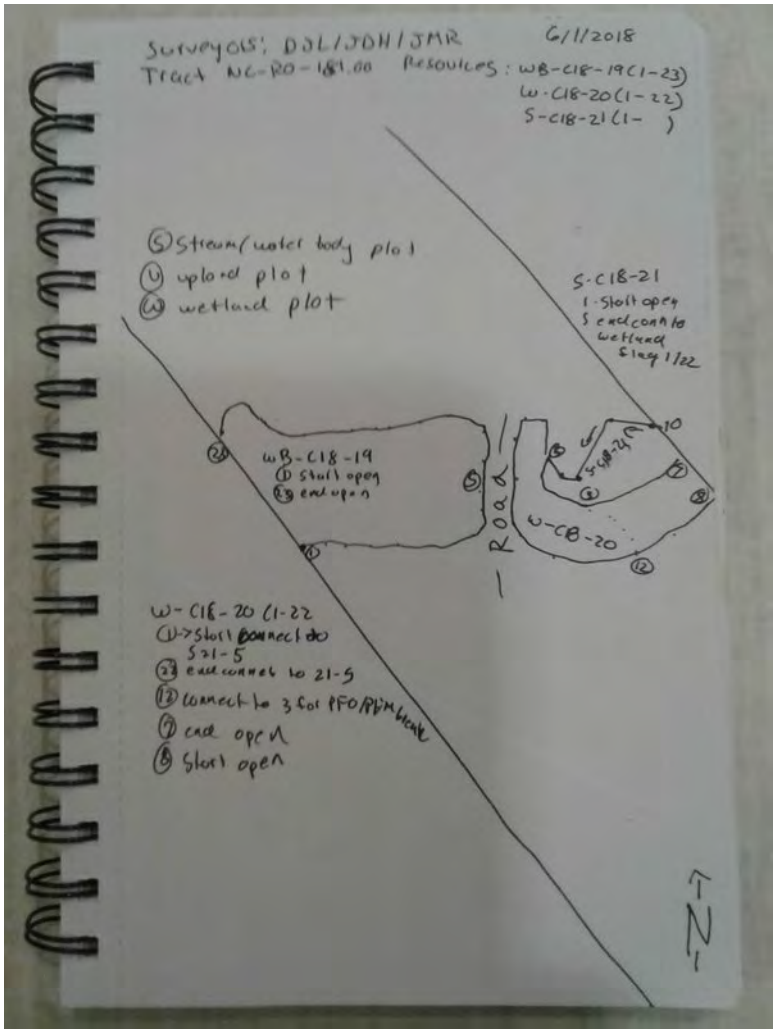
Photo of Sample Plot North

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:** Williamsburg, Rocking... **Sampling Date:** 2018-June-02
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-20_PEM-2
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Flood Plain **Local relief (concave, convex, none):** Undulating **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.256381 **Long:** -79.5451666 **Datum:** WGS84
Soil Map Unit Name: Pacolet Sandy clay 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):	5
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:

A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-C18-20_PEM-2

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

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)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	5	Yes	OBL
2. *Alnus serrulata*	5	Yes	OBL
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)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Leersia oryzoides*	30	Yes	OBL
2. *Impatiens capensis*	25	Yes	FACW
3. *Solidago gigantea*	15	Yes	FACW
4. *Sagittaria latifolia*	10	No	OBL
5. *Eleocharis obtusa*	10	No	OBL
6. *Carex lurida*	10	No	OBL
7. *Onoclea sensibilis*	5	No	FACW
8. *Persicaria sagittata*	5	No	OBL
9.			
10.			
11.			
	110	= Total Cover	
50% of total cover: 55	20% of total cover: 22		

Woody Vine Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Mikania scandens*	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:	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	75	x 1 =	75
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	125	(A)	175 (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-C18-20_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 - 4	2.5Y 4/2	95	7.5YR 3/4	5	C	M/PL	Clay Loam	
4 - 18	10YR 5/2	70	7.5YR 4/6	30	C	M/PL	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.

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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Williamsburg, Rocking... **Sampling Date:** 2018-June-01
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-20_UPL-1
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 5 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2563265 **Long:** -79.5457334 **Datum:** WGS84
Soil Map Unit Name: Cecil Sandy clay 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):	_____
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:

No positive indication of wetland hydrology was observed.

Sampling Point: W-C18-20_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	60	Yes	FAC
2. *Liriodendron tulipifera*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	80	= Total Cover	
50% of total cover: 40	20% of total cover: 16		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Nyssa sylvatica*	20	Yes	FAC
2. *Carpinus caroliniana*	20	Yes	FAC
3. *Carya ovata*	10	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
	50	= Total Cover	
50% of total cover: 25	20% of total cover: 10		

Herb Stratum (Plot size: 5)			
1. *Polystichum acrostichoides*	15	Yes	FACU
2. *Viola hirsutula*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 4		

Woody Vine Stratum (Plot size: 30)			
1. *Parthenocissus quinquefolia*	5	Yes	FACU
2. *Toxicodendron radicans*		No	FAC
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:	3	(A)
Total Number of Dominant Species Across All Strata:	8	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	37.5	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species		x 3 =	
FACU species	55	x 4 =	220
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-C18-20_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 3/3	100					Sandy Clay Loam	
2 - 18	5YR 4/6	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:

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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Gibsonville, Rockingha… **Sampling Date:** 2018-June-01
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-17_PSS-1
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 5 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.254129 **Long:** -79.5453164 **Datum:** WGS84
Soil Map Unit Name: Pacolet Sandy clay 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 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):	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:

A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-C18-17_PSS-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	30	Yes	FAC
2. *Liquidambar styraciflua*	20	Yes	FAC
3. *Platanus occidentalis*	20	Yes	FACW
4.			
5.			
6.			
7.			
	70	= Total Cover	
50% of total cover: 35	20% of total cover: 14		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Alnus serrulata*	15	Yes	OBL
2. *Ulmus rubra*	15	Yes	FAC
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. *Impatiens capensis*	10	Yes	FACW
2. *Solidago gigantea*	5	Yes	FACW
3. *Eutrochium purpureum*	5	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 4		

Woody Vine Stratum (Plot size: 30)			
1. *Toxicodendron radicans*	5	Yes	FAC
2. *Lonicera japonica*	5	Yes	FACU
3. *Campsis radicans*	5	Yes	FAC
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:	10	(A)
Total Number of Dominant Species Across All Strata:	11	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	90.9	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	15	x 1 =	15
FACW species	35	x 2 =	70
FAC species	80	x 3 =	240
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	135	(A)	345 (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.)

SOIL

Sampling Point: W-C18-17_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 - 18	10YR 4/2	70	7.5YR 4/6	30	C	M/PL	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:

A positive indication of hydric soil was observed.

Hydrology Photos

Vegetation Photos

Soil Photos

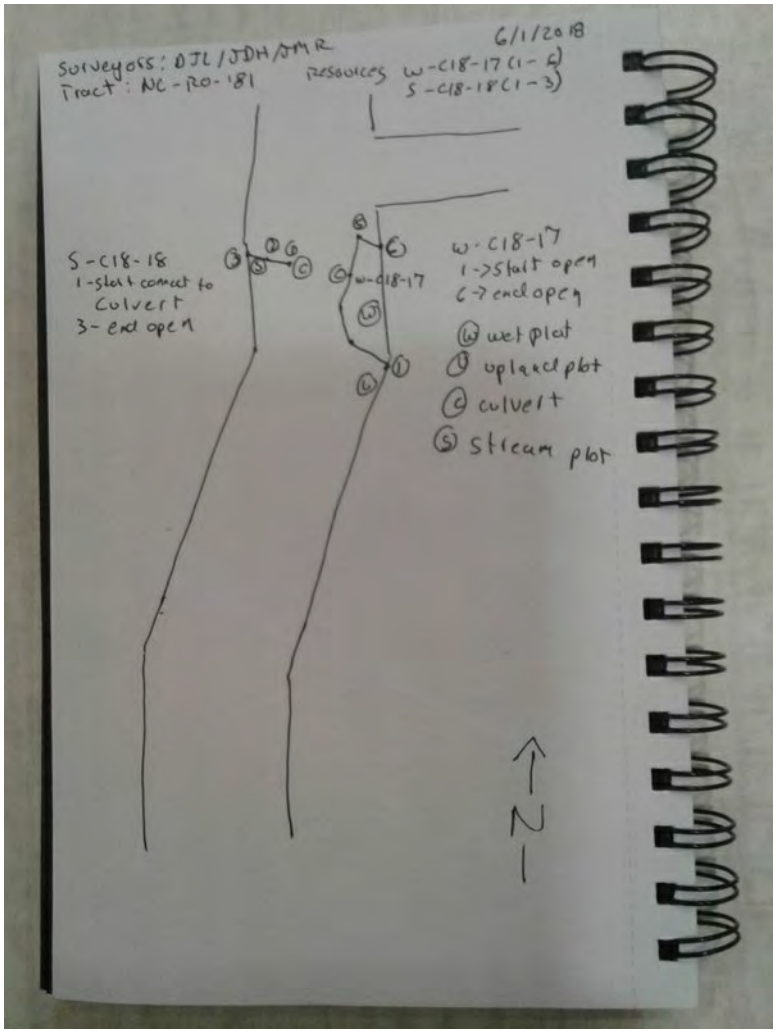
Photo of Sample Plot North

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:** Gibsonville, Rockingha… **Sampling Date:** 2018-June-01
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-17_UPL-1
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **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:** 36.2539585 **Long:** -79.5453318 **Datum:** WGS84
Soil Map Unit Name: Cecil Sandy clay 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):	_____
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:

No positive indication of wetland hydrology was observed.

Sampling Point: W-C18-17_UPL-1

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

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. *Solidago altissima*	30	Yes	FACU
2. *Melilotus officinalis*	20	Yes	FACU
3. *Fragaria virginiana*	10	No	FACU
4. *Potentilla simplex*	10	No	FACU
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: 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	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals	70	(A)	280 (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-C18-17_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 - 1	10YR 4/3	100					Sandy Clay Loam	
1 - 10	7.5YR 5/6	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: Fragipan
Depth (inches): 10

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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Gibsonville, Rockingha… **Sampling Date:** 2018-June-01
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-16_PEM-2
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2485818 **Long:** -79.5393274 **Datum:** WGS84
Soil Map Unit Name: Pocalet 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):	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:

A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-C18-16_PEM-2

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

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*	10	Yes	FAC
2. *Alnus serrulata*	10	Yes	OBL
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. *Carex lurida*	40	Yes	OBL
2. *Solidago gigantea*	10	Yes	FACW
3. *Juncus effusus*	10	Yes	FACW
4. *Eupatorium perfoliatum*	10	Yes	FACW
5. *Impatiens capensis*	5	No	FACW
6. *Lycopus virginicus*	5	No	OBL
7. *Onoclea sensibilis*	5	No	FACW
8. *Eleocharis obtusa*	5	No	OBL
9.			
10.			
11.			
	90	= Total Cover	
50% of total cover: 45	20% of total cover: 18		

Woody Vine Stratum (Plot size: 30)			
1. *Mikania scandens*	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:	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	60	x 1 =	60
FACW species	55	x 2 =	110
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	125	(A)	200 (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-C18-16_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 - 18	10YR 4/2	80	7.5YR 3/4	20	C	PL	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. The criterion for hydric soil is met.

Hydrology Photos

Vegetation Photos

Soil Photos

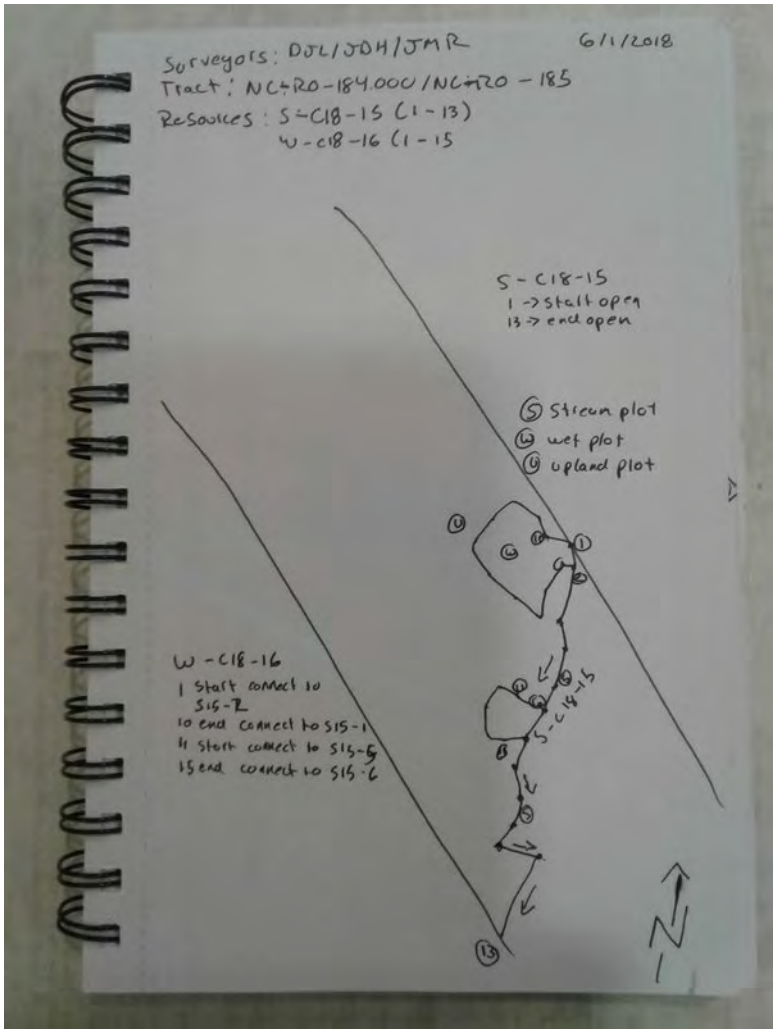
Photo of Sample Plot North

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:** Gibsonville, Rockingha… **Sampling Date:** 2018-June-01

Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-16_UPL-1

Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **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:** 36.2486492 **Long:** -79.5395346 **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.

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):	_____

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

Sampling Point: W-C18-16_UPL-1

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

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. *Juniperus virginiana*	15	Yes	FACU
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. *Solidago canadensis*	20	Yes	FACU
2. *Lespedeza cuneata*	15	Yes	FACU
3. *Eupatorium capillifolium*	10	Yes	FACU
4. *Ambrosia artemisiifolia*	10	Yes	FACU
5. *Erigeron annuus*	10	Yes	FACU
6. *Rubus alumnus*	5	No	FACU
7. *Allium canadense*	5	No	FACU
8. *Senecio vulgaris*	5	No	FACU
9.			
10.			
11.			
	80	= Total Cover	
50% of total cover: 40	20% of total cover: 16		

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:	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	10	x 3 =	30
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals	105	(A)	410 (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-C18-16_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 - 2	10YR 3/4	100					Clay Loam	
2 - 18	7.5YR 4/6	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:

Soil Photos

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:** Gibsonville, Alamance… **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-83_PEM-1
Investigator(s): Laura Giese, Jeff Vandeveer, Nate Renaudin **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:** 36.2345474 **Long:** -79.5299544 **Datum:** WGS84
Soil Map Unit Name: Frogsboro Sandy loam, 2-6 percent slopes (FgB) **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):	_____
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:

A positive indication of wetland hydrology was observed (at least two secondary indicators). Hydrology has been influenced by historic farming..

Sampling Point: W-A18-83_PEM-1

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

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. *Solidago gigantea*	35	Yes	FACW
2. *Glyceria striata*	30	Yes	OBL
3. *Carex lurida*	20	No	OBL
4. *Carex stipata*	10	No	OBL
5. *Eupatorium perfoliatum*	10	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	105	= Total Cover	
50% of total cover: 52.5	20% of total cover: 21		

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	60	x 1 =	60
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	105	(A)	150 (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.)

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

SOIL

Sampling Point: W-A18-83_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	2.5Y 5/3	90	10YR 5/6	10	C	M	Loam	
6 - 16	2.5Y 6/2	80	10YR 5/8	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:

A positive indication of hydric soil was observed. soil likely disturbed due to land use.

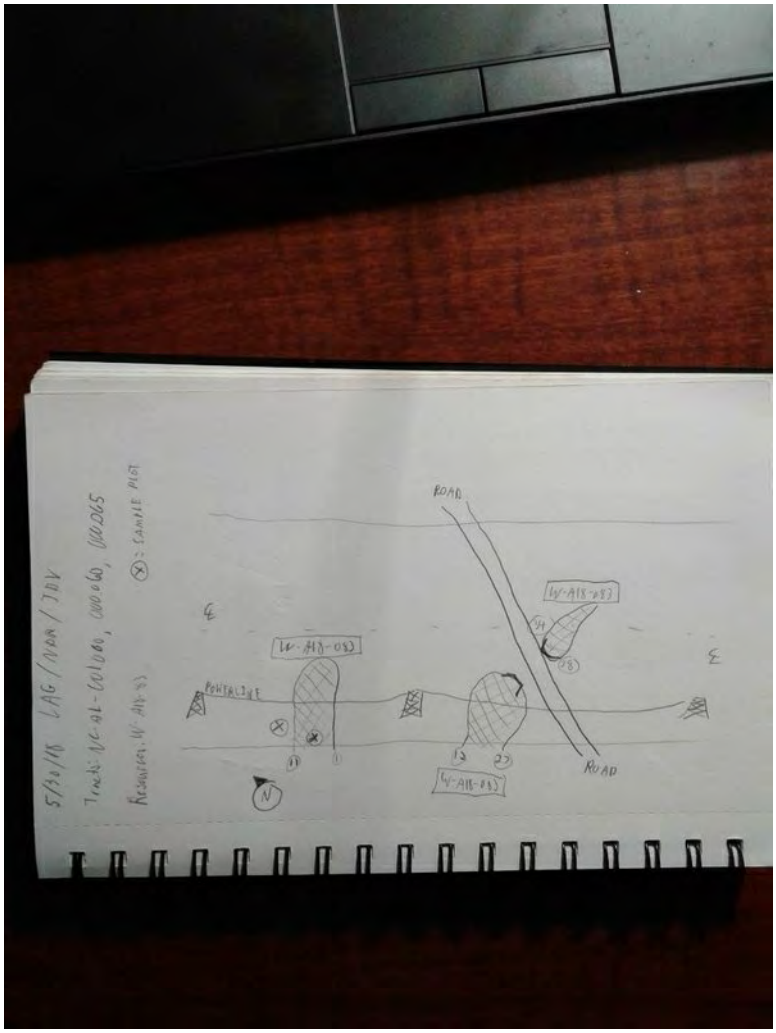
Photo of Sample Plot North

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:** Gibsonville, Alamance… **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-83_UPL-1
Investigator(s): Laura Giese, Jeff Vandeveer, Nate Renaudin **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:** 36.2345176 **Long:** -79.5300451 **Datum:** WGS84
Soil Map Unit Name: Frogsboro Sandy loam, 2-6 percent slopes (FgB) **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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-83_UPL-1

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

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. *Poa pratensis*	40	Yes	FACU
2. *Juncus tenuis*	20	Yes	FAC
3. *Dichanthelium clandestinum*	20	Yes	FAC
4. *Elymus repens*	15	No	FACU
5. *Triticum aestivum*	15	No	UPL
6. *Rosa multiflora*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
	115	= Total Cover	
50% of total cover: 57.5	20% of total cover: 23		

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	40	x 3 =	120
FACU species	60	x 4 =	240
UPL species	15	x 5 =	75
Column Totals	115	(A)	435 (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.)

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

SOIL

Sampling Point: W-A18-83_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 5/3	100					Loam	
6 - 16	10YR 5/3	92	10YR 5/8	8	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:

No positive indication of hydric soils was observed.

Photo of Sample Plot East

Photo of Sample Plot West

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** 4, Morton, Alamance … **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-85_PEM-1
Investigator(s): Laura Giese, Jeff Vandeveer, Nate Renaudin **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:** 36.2301606 **Long:** -79.5269447 **Datum:** WGS84
Soil Map Unit Name: Chewacla loam, 0-2 percent slopes, frequently flooded (ChA) **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):	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.

Sampling Point: W-A18-85_PEM-1

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

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*	20	Yes	FACW
2. *Carex lurida*	10	Yes	OBL
3. *Solidago gigantea*	10	Yes	FACW
4. *Leersia oryzoides*	10	Yes	OBL
5. *Boehmeria cylindrica*	10	Yes	FACW
6. *Carex stipata*	10	Yes	OBL
7. *Lonicera japonica*	10	Yes	FACU
8.			
9.			
10.			
11.			
	80	= Total Cover	
50% of total cover: 40	20% of total cover: 16		

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	30	x 1 =	30
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals	80	(A)	150 (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.)

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

SOIL

Sampling Point: W-A18-85_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 4/3	95	7.5YR 4/6	5	C	M	Silt Loam	
4 - 10	2.5Y 5/2	85	5YR 4/6	15	C	M	Silt Loam	
10 - 18	7.5YR 4/2	95	5YR 4/6	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:

A positive indication of hydric soil was observed.

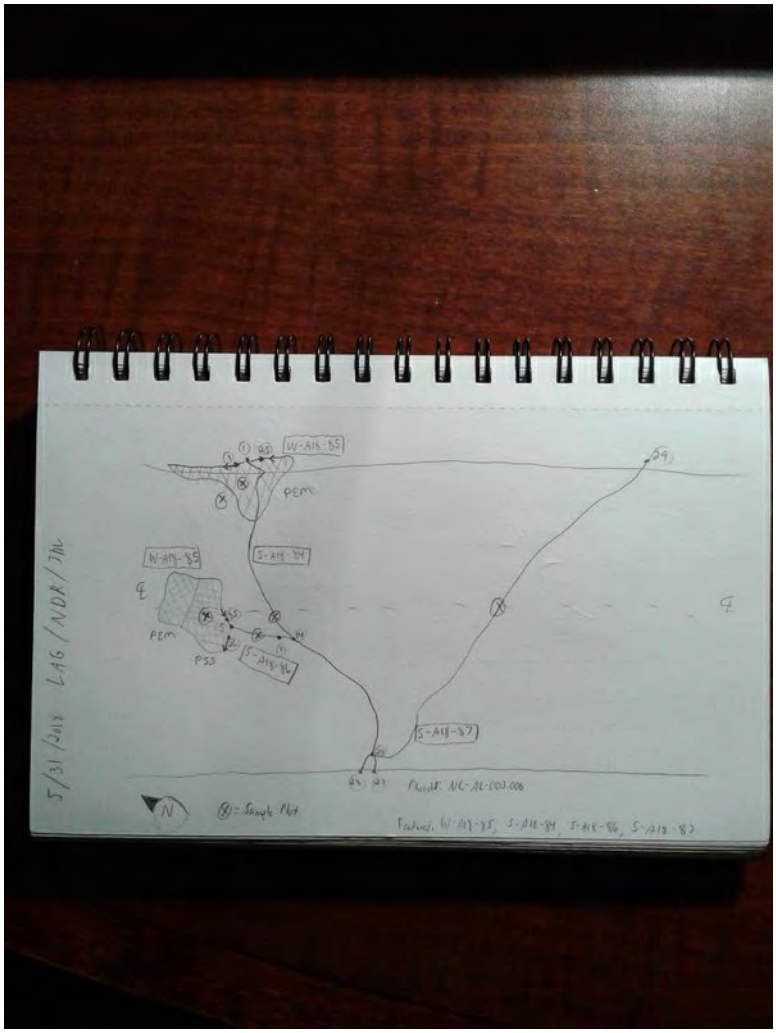
Photo of Sample Plot North

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:** 4, Morton, Alamance … **Sampling Date:** 2018-May-31
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-85_PSS-1
Investigator(s): Laura Giese, Jeff Vandeveer, Nate Renaudin **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:** 36.2299735 **Long:** -79.527428 **Datum:** WGS84
Soil Map Unit Name: Chewacla loam, 0-2 percent slopes, frequently flooded (ChA) **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.

Sampling Point: W-A18-85_PSS-1

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

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. *Salix nigra*	40	Yes	OBL
2.			
3.			
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. *Lonicera japonica*	30	Yes	FACU
2. *Juncus effusus*	20	Yes	FACW
3. *Carex lurida*	20	Yes	OBL
4. *Boehmeria cylindrica*	10	No	FACW
5. *Rubus allegheniensis*	10	No	FACU
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:	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	60	x 1 =	60
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals	130	(A)	280 (B)

Prevalence Index = B/A = 2.2

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-A18-85_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	7.5YR 4/3	100					Silt Loam	
2 - 6	10YR 5/2	90	7.5YR 4/6	10	C	M	Silt Loam	
6 - 19	5YR 4/6	70	10YR 5/1	30	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.

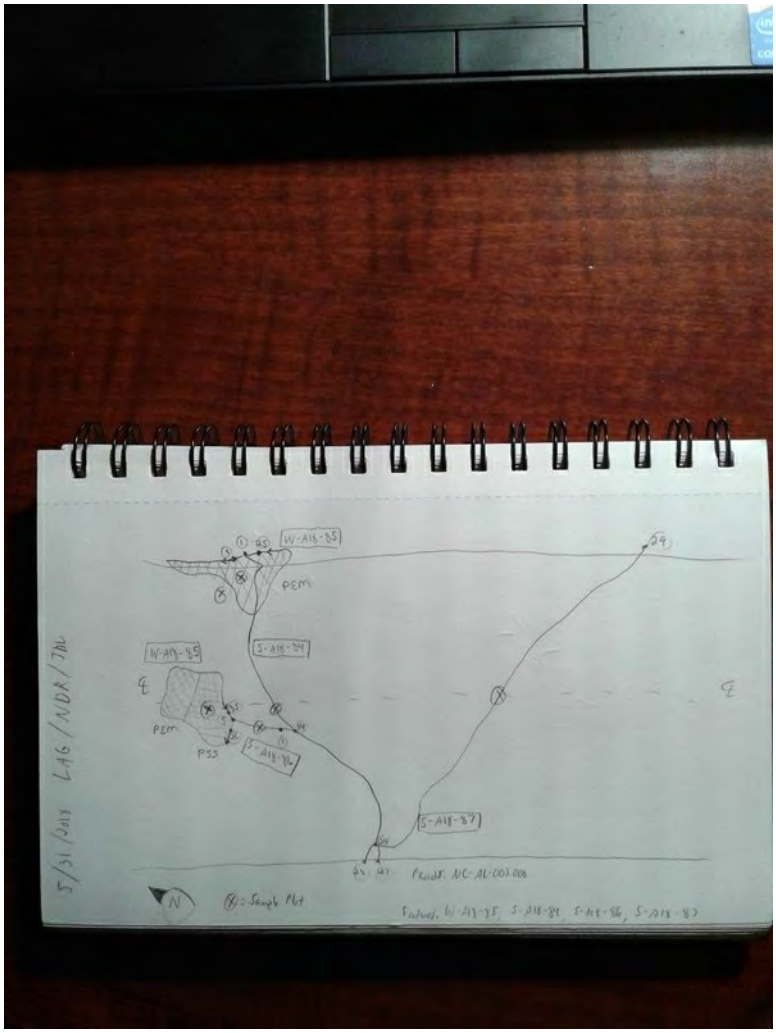
Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

Photo of Sample Plot Sketch



WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** 4, Morton, Alamance … **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-85_UPL-1
Investigator(s): Laura Giese, Jeff Vandeveer, Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Foot slope **Local relief (concave, convex, none):** Convex **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2302226 **Long:** -79.5271716 **Datum:** WGS84
Soil Map Unit Name: Chewacla loam, 0-2 percent slopes, frequently flooded (ChA) **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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-85_UPL-1

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

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. *Trifolium repens*	30	Yes	FACU
2. *Poa pratensis*	30	Yes	FACU
3. *Apocynum cannabinum*	20	Yes	FACU
4. *Rumex crispus*	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.			
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:	3	(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	10	x 3 =	30
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals	90	(A)	350 (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.)

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

SOIL

Sampling Point: W-A18-85_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 4/4	100					Silty Clay Loam	
3 - 18	2.5YR 4/6	98	2.5YR 4/2	2	D	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:

No positive indication of hydric soils was observed. The criterion for hydric soil is not met.

Photo of Sample Plot North

Photo of Sample Plot West

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Gibsonville, Alamance… **Sampling Date:** 2018-June-11
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-67_PFO-1
Investigator(s): Don Lockwood, Tony Tredway, Jeremy Hummel **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:** 36.221339 **Long:** -79.5216198 **Datum:** WGS84
Soil Map Unit Name: Frogsboro **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.

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):	6
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. A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-C18-67_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	90	Yes	FAC
2. *Liquidambar styraciflua*	10	No	FAC
3.			
4.			
5.			
6.			
7.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Carpinus caroliniana*	70	Yes	FAC
2. *Ligustrum sinense*	15	No	FACU
3. *Fraxinus pennsylvanica*	15	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

Herb Stratum (Plot size: 5)			
1. *Microstegium vimineum*	60	Yes	FAC
2. *Boehmeria cylindrica*	20	Yes	FACW
3. *Onoclea sensibilis*	20	Yes	FACW
4.			
5.			
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. *Toxicodendron radicans*	70	Yes	FAC
2. *Rosa multiflora*	20	Yes	FACU
3. *Parthenocissus quinquefolia*	10	No	FACU
4.			
5.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

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	55	x 2 =	110
FAC species	300	x 3 =	900
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column Totals	400	(A)	1190 (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-C18-67_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 - 18	10YR 4/2	80	7.5YR 5/6	20	C	M/PL	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:

Hydrology Photos

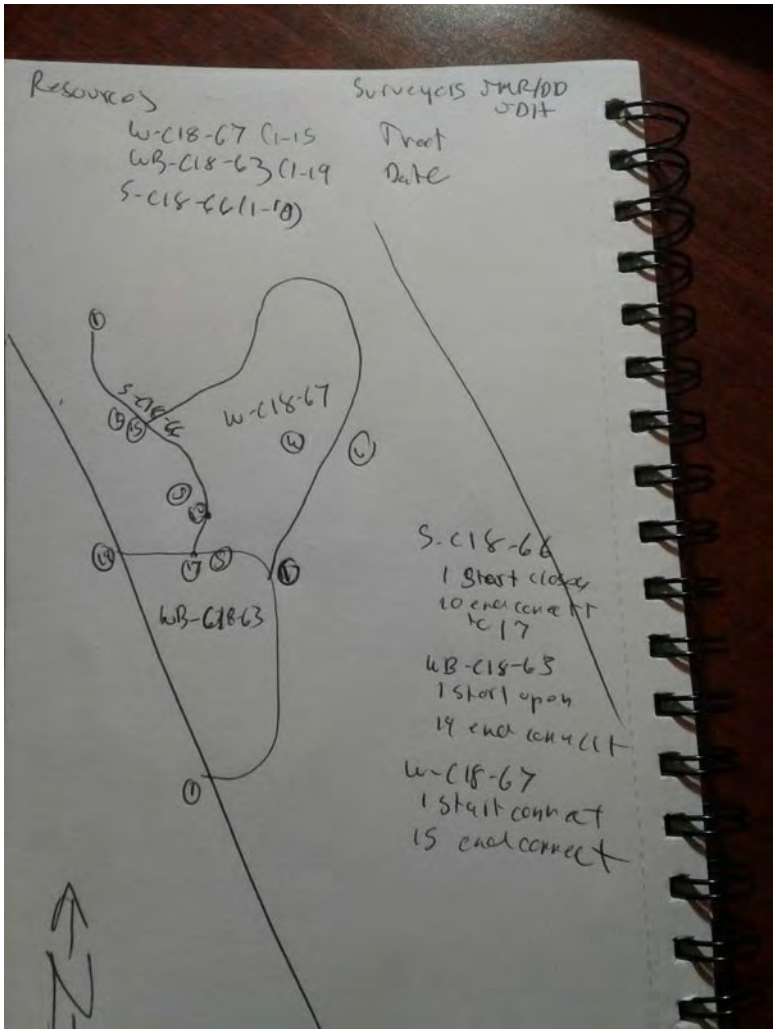
Soil Photos

Photo of Sample Plot North

Photo of Sample Plot South

Photo of Sample Plot West

Photo of Sample Plot Sketch


Resources
Surveyors JMR/DD
JDH
W-C18-67 C1-15
WB-C18-63 C1-19
S-C18-66 C1-10
Treat
Date
S-C18-66
W-C18-67
WB-C18-63
S-C18-66
1 Start closer
10 end connect
to 17
WB-C18-63
1 start upon
19 end connect
W-C18-67
1 start connect
15 end connect
N

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Gibsonville, Alamance… **Sampling Date:** 2018-June-11
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-67_UPL-1
Investigator(s): Don Lockwood, Tony Tredway, Jeremy Hummel **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2213967 **Long:** -79.5214112 **Datum:** WGS84
Soil Map Unit Name: Enon clay 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):	
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:

Sampling Point: W-C18-67_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	70	Yes	FAC
2. *Liquidambar styraciflua*	20	Yes	FAC
3. *Ulmus rubra*	10	No	FAC
4.			
5.			
6.			
7.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Liquidambar styraciflua*	60	Yes	FAC
2. *Juniperus virginiana*	40	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

Herb Stratum (Plot size: 5)			
1. *Microstegium vimineum*	70	Yes	FAC
2. *Asplenium platyneuron*	30	Yes	FACU
3.			
4.			
5.			
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. *Parthenocissus quinquefolia*	40	Yes	FACU
2. *Toxicodendron radicans*	20	Yes	FAC
3. *Rosa multiflora*	20	Yes	FACU
4. *Lonicera japonica*	20	Yes	FACU
5.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	5	(A)
Total Number of Dominant Species Across All Strata:	10	(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	250	x 3 =	750
FACU species	150	x 4 =	600
UPL species	0	x 5 =	0
Column Totals	400	(A)	1350 (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-C18-67_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 4/3	100					Clay Loam	
3 - 18	10YR 6/6	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:

Hydrology Photos

Soil Photos

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:** Gibsonville, Alamance… **Sampling Date:** 2018-June-09

Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-65_PSS-1

Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel, Doreen Donovan **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:** 36.2199276 **Long:** -79.5214548 **Datum:** WGS84

Soil Map Unit Name: Chewacla **NWI classification:** PSS

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):	6
Water Table Present?	Yes ✓ No ____	Depth (inches):	5
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. A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-C18-65_PSS-1

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

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. *Acer rubrum*	30	Yes	FAC
2. *Alnus serrulata*	25	Yes	OBL
3. *Sambucus nigra*	25	Yes	FAC
4. *Salix nigra*	20	Yes	OBL
5.			
6.			
7.			
8.			
9.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

Herb Stratum (Plot size: 5)			
1. *Alternanthera philoxeroides*	20	Yes	OBL
2. *Leersia oryzoides*	15	Yes	OBL
3. *Microstegium vimineum*	15	Yes	FAC
4. *Boehmeria cylindrica*	10	Yes	FACW
5. *Carex alata*	10	Yes	OBL
6. *Eupatorium perfoliatum*	10	Yes	FACW
7. *Juncus effusus*	10	Yes	FACW
8. *Ludwigia alternifolia*	10	Yes	FACW
9.			
10.			
11.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

Woody Vine Stratum (Plot size: 30)			
1. *Mikania scandens*	10	Yes	FACW
2. *Toxicodendron radicans*	10	Yes	FAC
3. *Lonicera japonica*	10	Yes	FACU
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:	14	(A)
Total Number of Dominant Species Across All Strata:	15	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	93.3	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	90	x 1 =	90
FACW species	50	x 2 =	100
FAC species	80	x 3 =	240
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals	230	(A)	470 (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-C18-65_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 - 5	10YR 5/2	90	7.5YR 6/6	10	C	M/PL	Clay Loam	
5 - 18	10YR 3/1	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:

Hydrology Photos

Vegetation Photos

Soil Photos

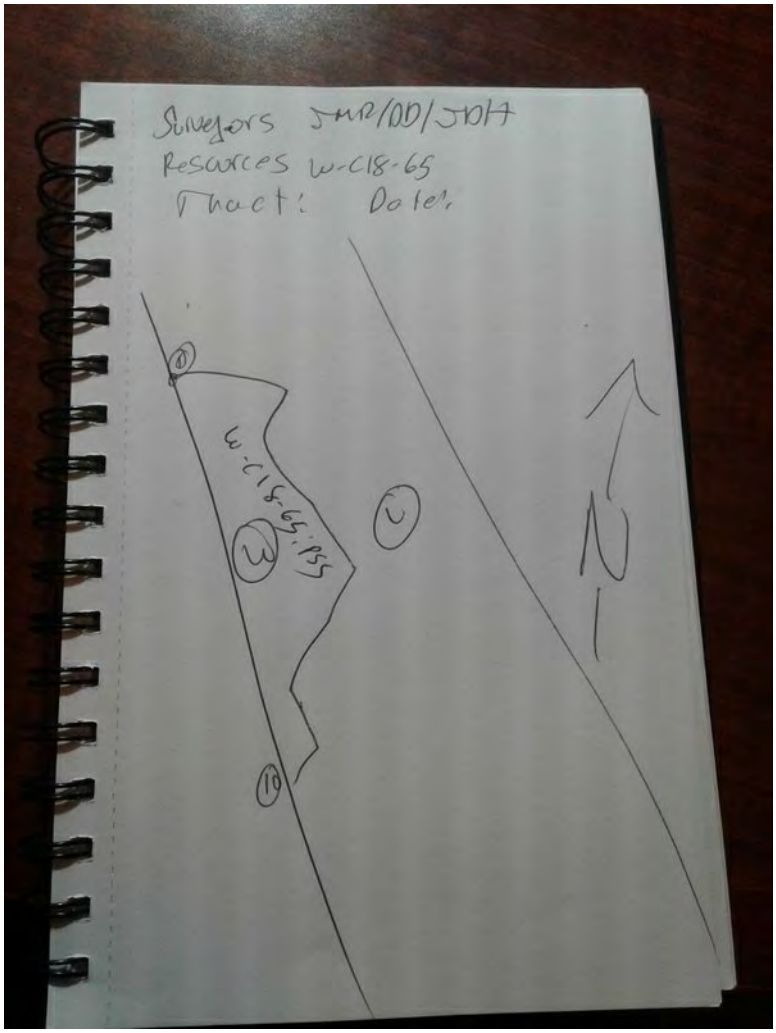
Photo of Sample Plot North

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:** Gibsonville, Alamance… **Sampling Date:** 2018-June-09

Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-65_UPL-1

Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel, Doreen Donovan **Section, Township, Range:** _____

Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 10

Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2199778 **Long:** -79.5212272 **Datum:** WGS84

Soil Map Unit Name: Enon clay 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.

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):	_____

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

Sampling Point: W-C18-65_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	30	Yes	FAC
2. *Liriodendron tulipifera*	25	Yes	FACU
3. *Pinus taeda*	25	Yes	FAC
4. *Liquidambar styraciflua*	20	Yes	FAC
5.			
6.			
7.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Liriodendron tulipifera*	15	Yes	FACU
2. *Juniperus virginiana*	10	Yes	FACU
3. *Liquidambar styraciflua*	10	Yes	FAC
4. *Acer rubrum*	10	Yes	FAC
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*	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 4		

Woody Vine Stratum (Plot size: 30)			
1. *Lonicera japonica*	10	Yes	FACU
2. *Parthenocissus quinquefolia*	10	Yes	FACU
3. *Rosa multiflora*	10	Yes	FACU
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:	6	(A)
Total Number of Dominant Species Across All Strata:	12	(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	115	x 3 =	345
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals	195	(A)	665 (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-C18-65_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 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:

Hydrology Photos

Soil Photos

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:** Gibsonville, Alamance… **Sampling Date:** 2018-June-09

Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-59_PFO-1

Investigator(s): Don Lockwood, Joe Roy, Jeremy Hemmell, Doreen Donovan **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:** 36.2134246 **Long:** -79.51735 **Datum:** WGS84

Soil Map Unit Name: Frogsboro 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. Ditches/drain tiles observed. Circumstances are not normal due to agricultural activities.

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:

The criterion for wetland hydrology is met.

Sampling Point: W-C18-59_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	95	Yes	FAC
2. *Platanus occidentalis*	5	No	FACW
3. *Liquidambar styraciflua*	2	No	FAC
4.			
5.			
6.			
7.			
	102	= Total Cover	
50% of total cover: 51	20% of total cover:		20.4

Sapling/Shrub Stratum (Plot size: 15)			
1. *Ulmus rubra*	10	Yes	FAC
2. *Liquidambar styraciflua*	15	Percent cover cannot be greater than a previous species	FAC
3. *Ilex opaca*	1	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
	26	= Total Cover	
50% of total cover: 13	20% of total cover:		5.2

Herb Stratum (Plot size: 5)			
1. *Onoclea sensibilis*	85	Yes	FACW
2. *Impatiens capensis*	5	No	FACW
3. *Boehmeria cylindrica*	2	No	FACW
4. *Commelina virginica*	2	No	FACW
5. *Toxicodendron radicans*	2	No	FAC
6. *Dichanthelium erectifolium*	1	No	OBL
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:	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	1	x 1 =	1
FACW species	99	x 2 =	198
FAC species	124	x 3 =	372
FACU species	1	x 4 =	4
UPL species	0	x 5 =	0
Column Totals	225	(A)	575 (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.)

SOIL

Sampling Point: W-C18-59_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 - 6	10YR 3/2	100						
6 - 18	2.5Y 5/1	70	7.5YR 4/6	30	D	M/PL	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:

Hydrology Photos

Soil Photos

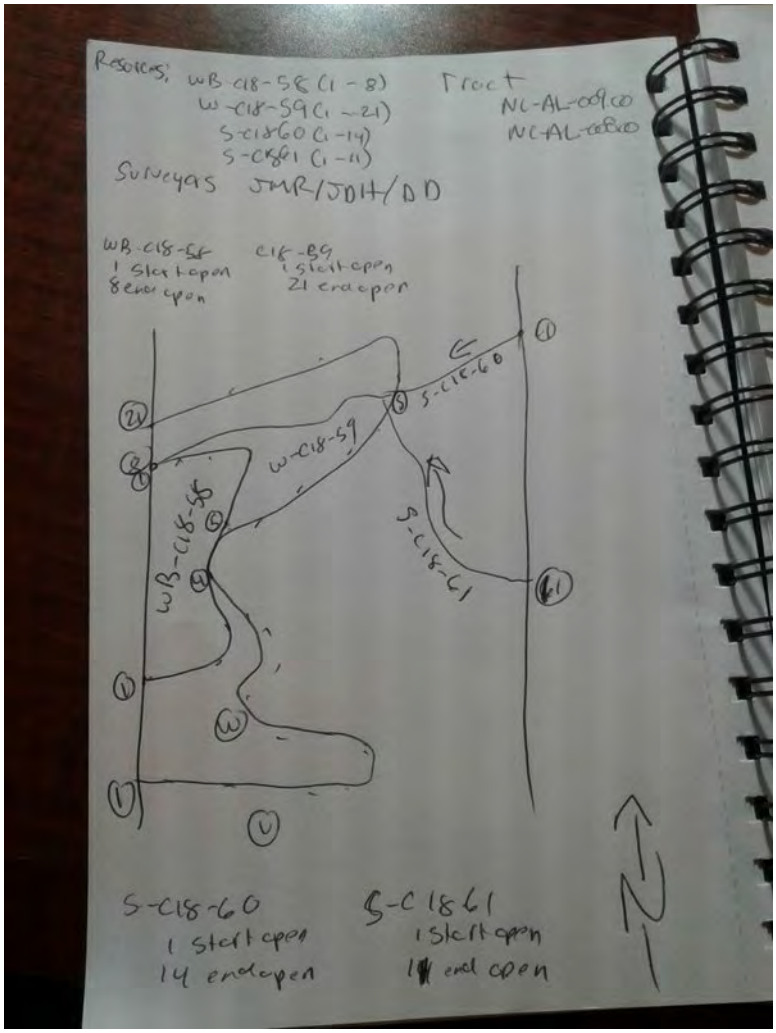
Photo of Sample Plot North

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:** Gibsonville, Alamance… **Sampling Date:** 2018-June-09

Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-59_UPL-1

Investigator(s): Don Lockwood, Joe Roy, Jeremy Hemmell, Doreen Donovan **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:** 36.213422 **Long:** -79.5172437 **Datum:** WGS84

Soil Map Unit Name: Pacelot 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.

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):	_____

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

Sampling Point: W-C18-59_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liriodendron tulipifera*	70	Yes	FACU
2. *Carya cordiformis*	15	No	FACU
3. *Quercus alba*	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. *Quercus alba*	20	Yes	FACU
2. *Liquidambar styraciflua*	15	Yes	FAC
3. *Oxydendrum arboreum*	8	No	UPL
4. *Liriodendron tulipifera*	4	No	FACU
5.			
6.			
7.			
8.			
9.			
	47	= Total Cover	
50% of total cover: 23.5	20% of total cover: 9.4		

Herb Stratum (Plot size: 5)			
1. *Campsis radicans*	15	Yes	FAC
2. *Vitis rotundifolia*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25	= Total Cover	
50% of total cover: 12.5	20% of total cover: 5		

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	40	x 3 =	120
FACU species	119	x 4 =	476
UPL species	8	x 5 =	40
Column Totals	167	(A)	636 (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-C18-59_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 - 15	10YR 3/3	95	10YR 5/6	5	C	M	Clay Loam	
15 - 19	10YR 3/4	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:

Soil Photos

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:** Gibsonville, Alamance… **Sampling Date:** 2018-June-11
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-69_PFO-1
Investigator(s): Don Lockwood, Tony Tredway, Jeremy Hummel **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Flood Plain **Local relief (concave, convex, none):** Undulating **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2092808 **Long:** -79.516662 **Datum:** WGS84
Soil Map Unit Name: Chewacla **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? Yes ✓ No ____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

Sampling Point: W-C18-69_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	60	Yes	FAC
2. *Liquidambar styraciflua*	40	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Carpinus caroliniana*	60	Yes	FAC
2. *Liquidambar styraciflua*	20	Yes	FAC
3. *Acer rubrum*	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

Herb Stratum (Plot size: 5)			
1. *Microstegium vimineum*	50	Yes	FAC
2. *Arisaema triphyllum*	20	Yes	FACW
3. *Onoclea sensibilis*	10	No	FACW
4. *Osmunda spectabilis*	10	No	OBL
5. *Athyrium asplenioides*	10	No	FAC
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.			
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	30	x 2 =	60
FAC species	260	x 3 =	780
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	300	(A)	850 (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-C18-69_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 - 18	10YR 5/1	80	7.5YR 6/6	20	C	M/PL	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:

Hydrology Photos

Soil Photos

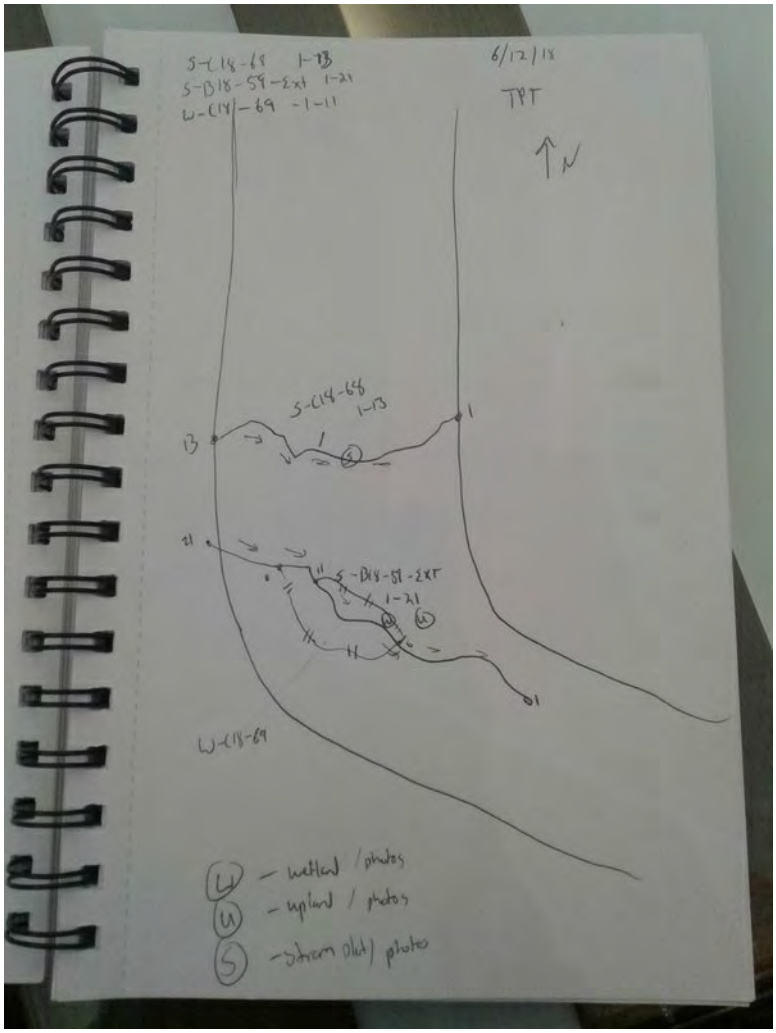
Photo of Sample Plot North

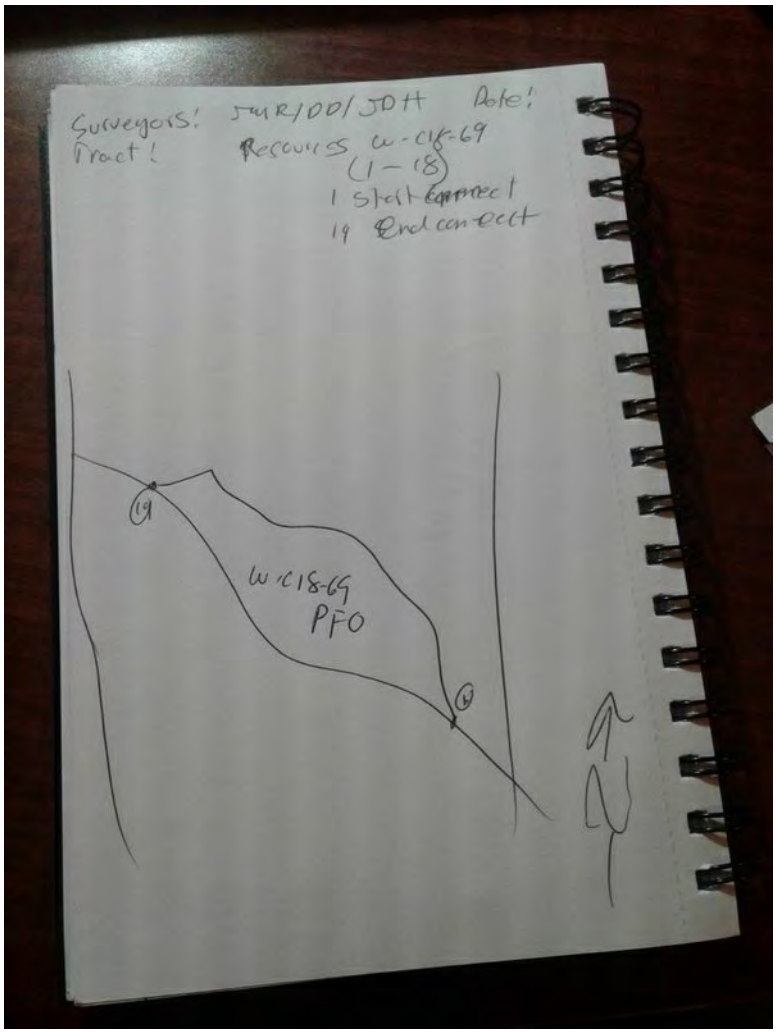
Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

Photo of Sample Plot Sketch




Surveyors: JMR/DDI/JDH Date:
Tract:
Resources W-C18-69
(1 – 18)
1 Start Connect
19 End connect
19
W-C18-69
PFO
1

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Gibsonville, Alamance… **Sampling Date:** 2018-June-11
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-69_UPL-1
Investigator(s): Don Lockwood, Tony Tredway, Jeremy Hummel **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2094059 **Long:** -79.5165709 **Datum:** WGS84
Soil Map Unit Name: Cullen clay 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):	
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:

Sampling Point: W-C18-69_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liriodendron tulipifera*	35	Yes	FACU
2. *Liquidambar styraciflua*	25	Yes	FAC
3. *Prunus serotina*	20	Yes	FACU
4. *Carya glabra*	20	Yes	FACU
5.			
6.			
7.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover:		20

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.			
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. *Vitis rotundifolia*	20	Yes	FAC
2. *Parthenocissus quinquefolia*	10	Yes	FACU
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:	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	45	x 3 =	135
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column Totals	130	(A)	475 (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-C18-69_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 3/3	100					Clay Loam	
2 - 18	10YR 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:

Hydrology Photos

Soil Photos

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:** Gibsonville, Alamance… **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-60_PSS-1
Investigator(s): Will Buetow, Simon King, Susie Gifford **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Stream **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2083112 **Long:** -79.5153673 **Datum:** WGS84
Soil Map Unit Name: CnD2 **NWI classification:** PSS
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): 4
Saturation Present? Yes ✓ No ____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

Sampling Point: W-B18-60_PSS-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liriodendron tulipifera*	10	Yes	FACU
2. *Fraxinus pennsylvanica*	5	Yes	FACW
3. *Acer rubrum*	5	Yes	FAC
4.			
5.			
6.			
7.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 4		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Lindera benzoin*	50	Yes	FAC
2. *Vaccinium corymbosum*	20	Yes	FACW
3. *Ilex opaca*	15	No	FACU
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. *Microstegium vimineum*	60	Yes	FAC
2. *Carex sp.*	10	No	NI
3. *Arisaema triphyllum*	10	No	FACW
4. *Onoclea sensibilis*	5	No	FACW
5. *Smilax rotundifolia*	5	No	FAC
6. *Viburnum nudum*	5	No	OBL
7.			
8.			
9.			
10.			
11.			
	95	= Total Cover	
50% of total cover: 47.5	20% of total cover: 19		

Woody Vine Stratum (Plot size: 30)			
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:	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	5	x 1 =	5
FACW species	40	x 2 =	80
FAC species	120	x 3 =	360
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals	195	(A)	565 (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-B18-60_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	2.5Y 5/1	100					Sandy Loam	
2 - 8	2.5Y 2.5/1	90	2.5Y 5/2	10	D		Loamy Sand	
8 - 18	2.5Y 5/1	100					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:

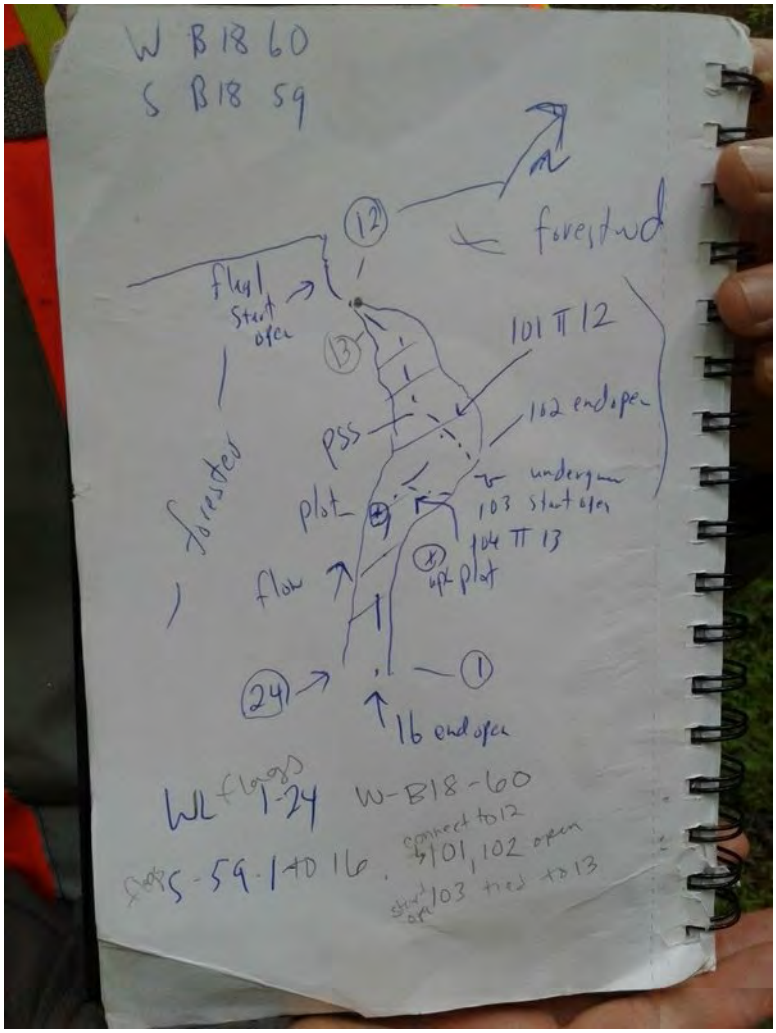
Photo of Sample Plot North

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:** Gibsonville, Alamance… **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-60_UPL-1
Investigator(s): Will Buetow, Simon King, Susie Gifford **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Terrace **Local relief (concave, convex, none):** Undulating **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2087359 **Long:** -79.5156918 **Datum:** WGS84
Soil Map Unit Name: Cnd2 **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):	
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:

Sampling Point: W-B18-60_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liriodendron tulipifera*	40	Yes	FACU
2. *Liquidambar styraciflua*	35	Yes	FAC
3. *Quercus rubra*	10	No	FACU
4. *Acer rubrum*	5	No	FAC
5.			
6.			
7.			
	90	= Total Cover	
50% of total cover: 45	20% of total cover: 18		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Oxydendrum arboreum*	10	Yes	UPL
2. *Liquidambar styraciflua*	10	Yes	FAC
3. *Liriodendron tulipifera*	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. *Polystichum acrostichoides*	10	Yes	FACU
2. *Lonicera japonica*	5	Yes	FACU
3. *Ilex opaca*	2	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	17	= Total Cover	
50% of total cover: 8.5	20% of total cover: 3.4		

Woody Vine Stratum (Plot size: 30)			
1. *Vitis 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:	3	(A)
Total Number of Dominant Species Across All Strata:	8	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	37.5	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	77	x 4 =	308
UPL species	10	x 5 =	50
Column Totals	147	(A)	538 (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-B18-60_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 3/3	100					Sandy Loam	
2 - 18	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: None

Depth (inches):

Hydric Soil Present? Yes ☐ No ☑

Remarks:

Photo of Sample Plot North

Photo of Sample Plot South

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** 4, Morton, Alamance … **Sampling Date:** 2018-May-30

Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-61_PEM-1

Investigator(s): Will Buetow, Simon King, Susie Gifford **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:** 36.2086409 **Long:** -79.5122956 **Datum:** WGS84

Soil Map Unit Name: HeC **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):	1
Water Table Present?	Yes ✓ No ____	Depth (inches):	8
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:

Sampling Point: W-B18-61_PEM-1

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

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. *Impatiens capensis*	30	Yes	FACW
2. *Carex lurida*	20	Yes	OBL
3. *Persicaria sagittata*	15	Yes	OBL
4. *Vernonia fasciculata*	15	Yes	FAC
5. *Sambucus nigra*	10	No	FAC
6. *Bidens frondosa*	10	No	FACW
7. *Carex lupulina*	5	No	OBL
8. *Solidago canadensis*	5	No	FACU
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:	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	40	x 2 =	80
FAC species	25	x 3 =	75
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	110	(A)	215 (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-B18-61_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	2.5Y 3/2	90	7.5YR 3/4	10	C		Sandy Loam	
5 - 8	10YR 4/2	95	7.5YR 3/4	5	C		Sandy Loam	
8 - 18	10YR 5/4	98	7.5YR 3/4	2	C		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 ☐

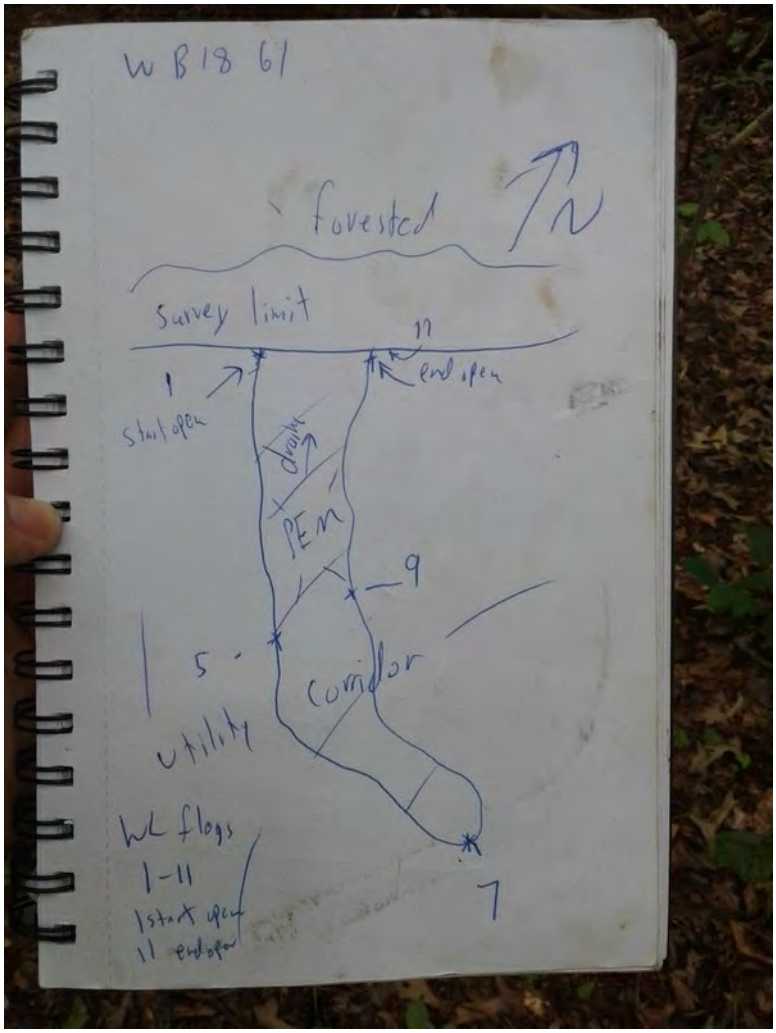
Remarks:

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot
South

Photo of Sample Plot Sketch



WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** 4, Morton, Alamance … **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-61_UPL-1
Investigator(s): Will Buetow, Simon King, Susie Gifford **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:** 36.208641 **Long:** -79.5121709 **Datum:** WGS84
Soil Map Unit Name: HeC, Helena **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):	
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:

Sampling Point: W-B18-61_UPL-1

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

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. *Solidago canadensis*	40	Yes	FACU
2. *Elymus canadensis*	20	Yes	FACU
3. *Solidago rugosa*	10	No	FAC
4. *Bidens frondosa*	5	No	FACW
5. *Rubus allegheniensis*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	80	= Total Cover	
50% of total cover: 40	20% of total cover: 16		

Woody Vine Stratum (Plot size: 30)			
1. *Smilax rotundifolia*	5	Yes	FAC
2. *Lonicera japonica*	5	Yes	FACU
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:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	25	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	15	x 3 =	45
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals	90	(A)	335 (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-B18-61_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	10YR 4/3	100					Sandy Loam	
4 - 14	10YR 5/4	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: None

Depth (inches):

Hydric Soil Present? Yes ☐ No ☑

Remarks:

Photo of Sample Plot North

Photo of Sample Plot South

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Elon, Alamance County **Sampling Date:** 2018-June-18
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-163_PFO-1
Investigator(s): Laura Giese, Jake Brillo **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2083914 **Long:** -79.5110151 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam (HeC) 6 to 10 percent slopes **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):	9
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.

Sampling Point: W-A18-163_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	

50% of total cover: 5 20% of total cover: 2

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. *Microstegium vimineum*	65	Yes	FAC
2. *Viburnum nudum*	25	Yes	OBL
3. *Vitis riparia*	5	No	FACW
4. *Rosa multiflora*	5	No	FACU
5.			
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.			
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	25	x 1 =	25
FACW species	5	x 2 =	10
FAC species	75	x 3 =	225
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	110	(A)	280 (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.)

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

SOIL

Sampling Point: W-A18-163_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	90	10YR 5/1	10	D	M	Sandy Loam	
5 - 9	10YR 5/1	95	10YR 5/8	5	C	M	Loamy Sand	
9 - 21	2.5Y 6/1	90	10YR 5/8	10	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:

A positive indication of hydric soil was observed.

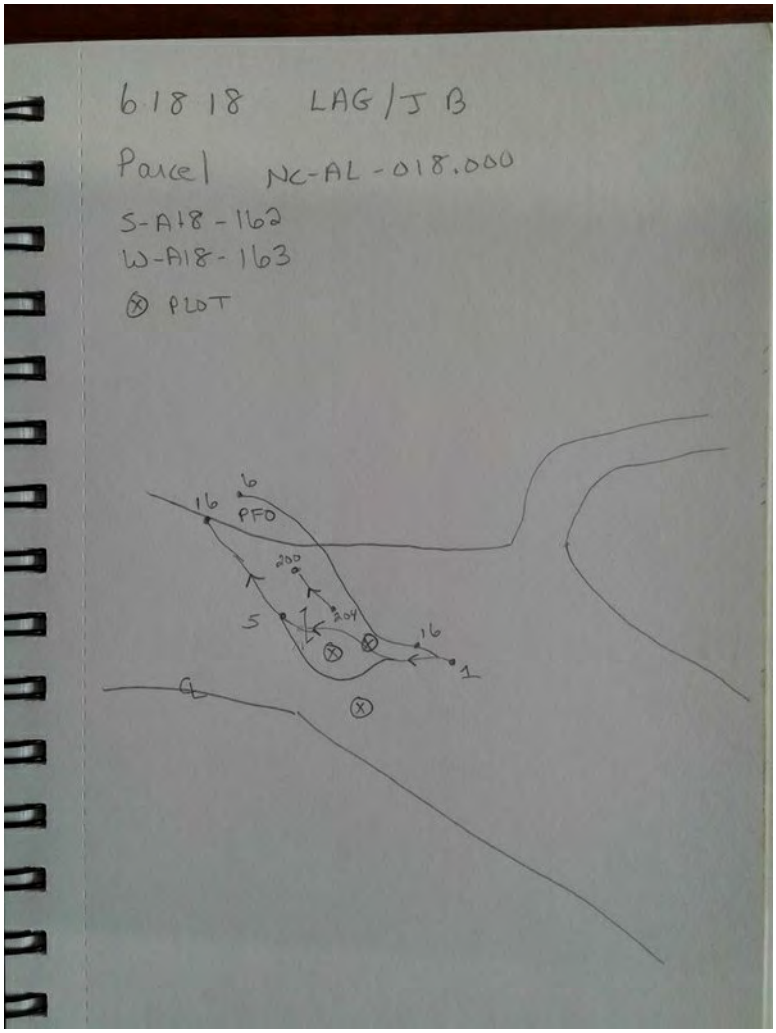
Photo of Sample Plot North

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:** Elon, Alamance County **Sampling Date:** 2018-June-18
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-163_UPL-1
Investigator(s): Laura Giese, Jake Brillo **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Convex **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2082721 **Long:** -79.5112165 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam (HeC), 6 to 10 percent slopes **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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-163_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	

50% of total cover: 5 20% of total cover: 2

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*	60	Yes	FAC
2. *Microstegium vimineum*	25	Yes	FAC
3. *Parthenocissus quinquefolia*	5	No	FACU
4. *Sambucus nigra*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95	= Total Cover	

50% of total cover: 47.5 20% of total cover: 19

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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	100	x 3 =	300
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	105	(A)	320 (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.)

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

SOIL

Sampling Point: W-A18-163_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	10YR 4/3	100					Silt Loam	
4 - 15	10YR 6/6	60	5YR 5/8	5	C	M	Loamy Sand	
4 - 15		0	10YR 5/4	35	C			
15 - 20	2.5Y 6/4	85	2.5Y 5/2	10	D	M	Loamy Sand	
15 - 20			7.5YR 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:

No positive indication of hydric soils was observed.

Photo of Sample Plot North

Photo of Sample Plot West

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Elon, Alamance County **Sampling Date:** 2018-June-18
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-165_PFO-1
Investigator(s): Laura Giese, Jake Brillo **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:** 36.2056003 **Long:** -79.5073828 **Datum:** WGS84
Soil Map Unit Name: Louisburg coarse Sandy loam (LoE) 15 to 45 percent slopes **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):	11
Saturation Present? (includes capillary fringe)	Yes ✓ No ____	Depth (inches):	9

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.

Sampling Point: W-A18-165_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

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. *Microstegium vimineum*	35	Yes	FAC
2. *Viburnum nudum*	15	Yes	OBL
3. *Viola sororia*	15	Yes	FAC
4. *Euonymus americanus*	5	No	FAC
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: 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	15	x 1 =	15
FACW species	0	x 2 =	0
FAC species	75	x 3 =	225
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	90	(A)	240 (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).

SOIL

Sampling Point: W-A18-165_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 4/2	85	7.5YR 5/6	10	C	M	Silt Loam	
0 - 4			10YR 5/1	5	D	M		
4 - 17	2.5Y 5/1	95	7.5YR 5/6	5	C	M	fine Sandy Loam	
17 - 21	2.5Y 5/1	98	10YR 5/8	2	C	M	Fine 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.

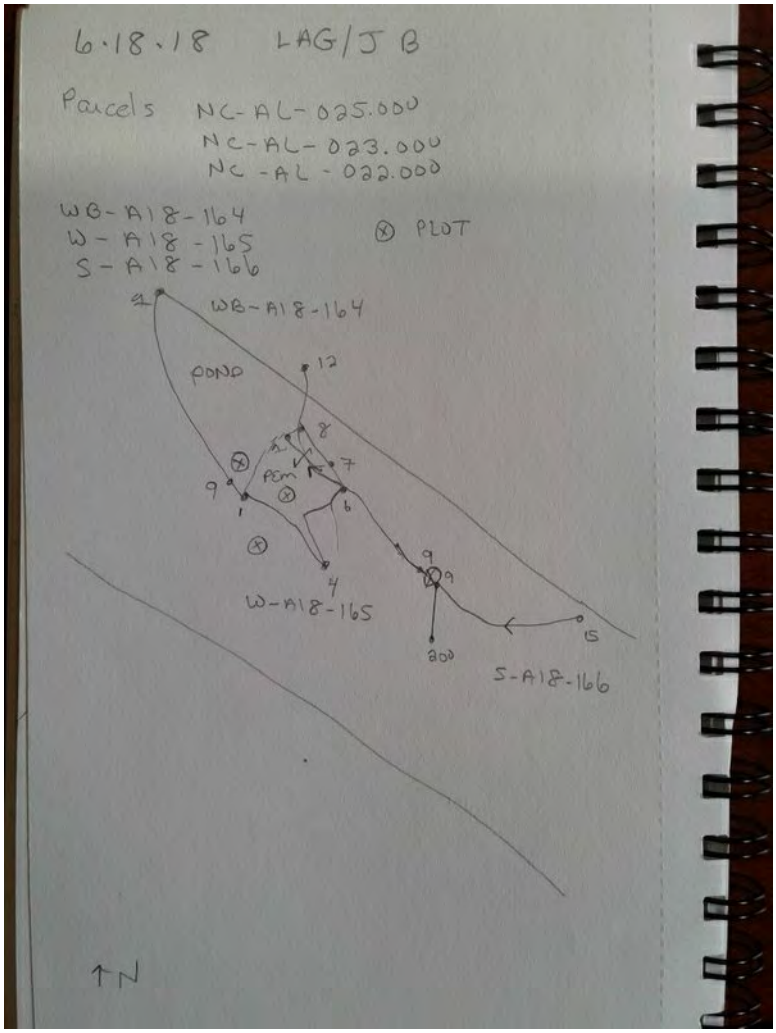
Photo of Sample Plot North

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:** Elon, Alamance County **Sampling Date:** 2018-June-18
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-165_UPL-1
Investigator(s): Laura Giese, Jake Brillo **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Convex **Slope (%):** 30 to 35
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2056346 **Long:** -79.5073596 **Datum:** WGS84
Soil Map Unit Name: Louisburg coarse Sandy loam (LoE), 15 to 45 percent slopes **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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-165_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus montana*	20	Yes	UPL
2. *Oxydendrum arboreum*	20	Yes	UPL
3. *Acer rubrum*	15	Yes	FAC
4.			
5.			
6.			
7.			
	55	= Total Cover	
50% of total cover: 27.5	20% of total cover:		11

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. *Carya glabra*	5	Yes	FACU
2. *Quercus montana*	5	Yes	UPL
3. *Oxydendrum arboreum*	5	Yes	UPL
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: 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:	6	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	16.7	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	5	x 4 =	20
UPL species	50	x 5 =	250
Column Totals	70	(A)	315 (B)
Prevalence Index = B/A =	4.5		

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-A18-165_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 4/3	100					Loam	
3 - 12	10YR 6/8	100					Sandy Loam	
12 - 16	7.5YR 5/8	98	10YR 5/2	2	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:

No positive indication of hydric soils was observed.

Photo of Sample Plot North

Photo of Sample Plot West

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Elon, Alamance County **Sampling Date:** 2018-June-19
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-167_PFO-1
Investigator(s): Laura Giese, Jake Brillo, Susan Thebert **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Foot slope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2010827 **Long:** -79.5018489 **Datum:** WGS84
Soil Map Unit Name: Chewacla loam (ChA) 0 to 2 percent slopes, frequently flooded **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):	11	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ✓ No ____	Depth (inches):	11	

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

Remarks:

The criterion for wetland hydrology is met.

Sampling Point: W-A18-167_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Nyssa sylvatica*	25	Yes	FAC
2. *Liriodendron tulipifera*	15	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*	35	Yes	OBL
2. *Viburnum nudum*	10	Yes	OBL
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. *Glyceria striata*	25	Yes	OBL
2. *Boehmeria cylindrica*	10	Yes	FACW
3. *Viburnum nudum*	10	Yes	OBL
4. *Toxicodendron radicans*	5	No	FAC
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: 30)			
1. *Smilax rotundifolia*	10	Yes	FAC
2. *Vitis riparia*	5	Yes	FACW
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:	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	80	x 1 =	80
FACW species	15	x 2 =	30
FAC species	40	x 3 =	120
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals	150	(A)	290 (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.)

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

SOIL

Sampling Point: W-A18-167_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 3/1	95	10YR 4/6	5	C	M	Silt Loam	
4 - 13	10YR 4/1	95	7.5YR 5/6	5	C	M	Silt Loam	
13 - 16	10YR 5/1	98	7.5YR 4/6	2	C	M	Silt Loam	
16 - 20	2.5Y 5/2	98	10YR 5/8	2	C	M	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:

A positive indication of hydric soil was observed.

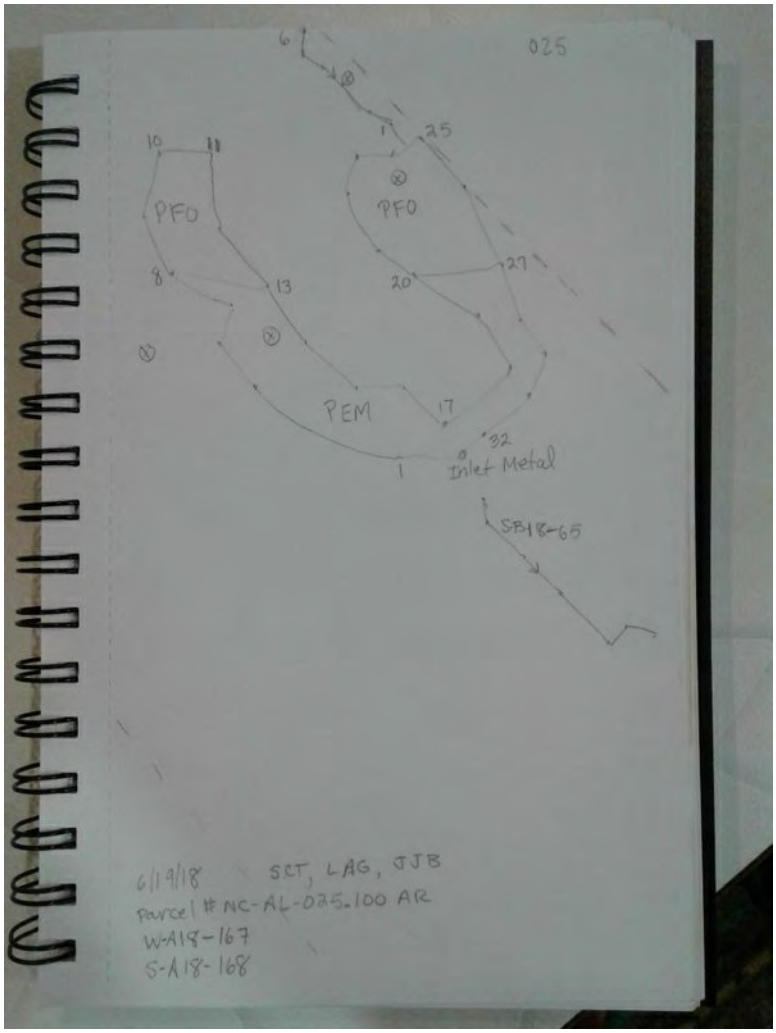
Photo of Sample Plot North

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:** Elon, Alamance County **Sampling Date:** 2018-June-19
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-167_PEM-1
Investigator(s): Laura Giese, Jake Brillo, Susan Thebert **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Foot slope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2010199 **Long:** -79.5017985 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam, (HeC) 6 to 10 percent slopes **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):	5	**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.

Sampling Point: W-A18-167_PEM-1

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

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. *Carex lurida*	75	Yes	OBL
2. *Dichanthelium clandestinum*	10	No	FAC
3. *Scirpus atrovirens*	5	No	OBL
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:	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	80	x 1 =	80
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	90	(A)	110 (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.)

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

SOIL

Sampling Point: W-A18-167_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 - 2	10YR 3/2	100					Silt Loam	
2 - 10	10YR 4/1	100					Silt Loam	
10 - 17	10YR 5/1	93	10YR 5/1	5	D	M	Silt Loam	
10 - 17			7.5YR 4/6	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:

A positive indication of hydric soil was observed.

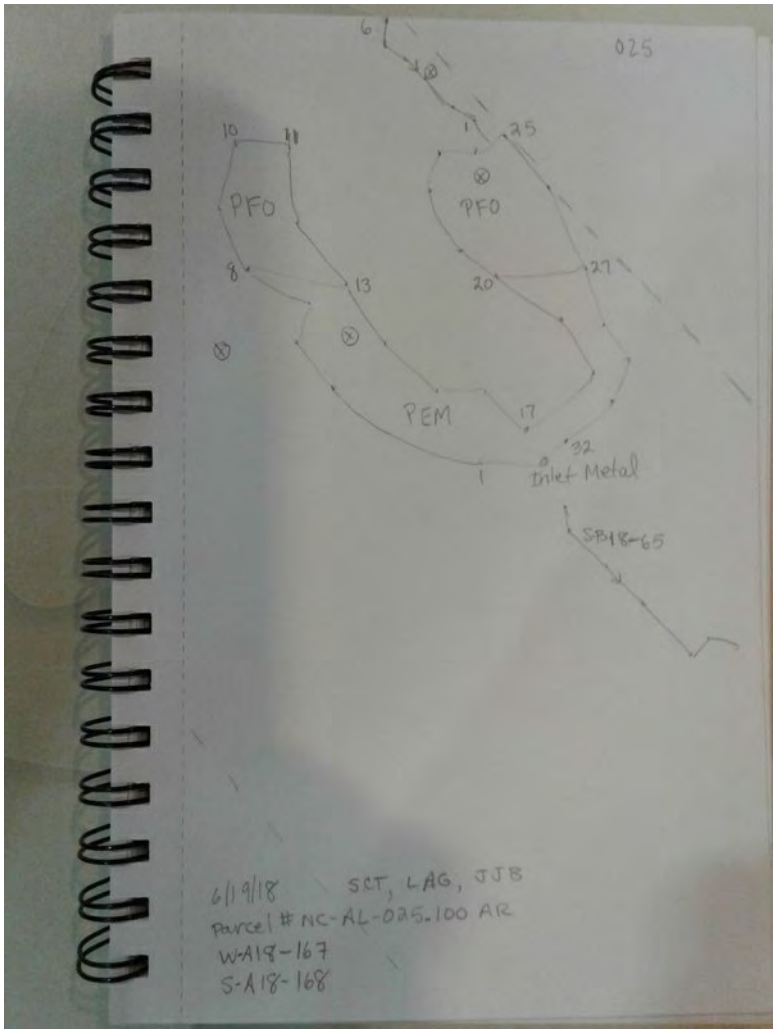
Photo of Sample Plot North

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:** Elon, Alamance County **Sampling Date:** 2018-June-19
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-167_UPL-1
Investigator(s): Laura Giese, Jake Brillo, Susan Thebert **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Convex **Slope (%):** 15 to 20
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.2009104 **Long:** -79.5020934 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam (HeC) 6 to 10 percent slopes **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. Area has been harvested recently .

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):	_____

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 not met.

Sampling Point: W-A18-167_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus alba*	30	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
50% of total cover: 15	20% of total cover: 6		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Juniperus virginiana*	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. *Smilax rotundifolia*	20	Yes	FAC
2. *Quercus alba*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25	= Total Cover	
50% of total cover: 12.5	20% of total cover: 5		

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:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	25	(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	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals	60	(A)	220 (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-A18-167_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 4/4	100					Silt Loam	
6 - 16	10YR 5/8	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 South

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Elon, Alamance County **Sampling Date:** 2018-June-05
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-119_PFO-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **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:** 36.1999034 **Long:** -79.5008216 **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):	7
Saturation Present? (includes capillary fringe)	Yes ✓ No ____	Depth (inches):	7

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.

Sampling Point: W-A18-119_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	65	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	65	= Total Cover	
50% of total cover: 32.5	20% of total cover: 13		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Liquidambar styraciflua*	5	Yes	FAC
2. *Nyssa sylvatica*	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. *Microstegium vimineum*	45	Yes	FAC
2. *Ilex verticillata*	15	Yes	FACW
3. *Carex tribuloides*	10	No	FACW
4. *Arisaema triphyllum*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	75	= Total Cover	
50% of total cover: 37.5	20% of total cover: 15		

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	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	120	x 3 =	360
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	150	(A)	420 (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).

SOIL

Sampling Point: W-A18-119_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 4/2	95	10YR 5/8	5	C	M	Silt Loam	
7 - 13	10YR 5/2	70	10YR 5/8	10	C	M	Silt Loam	
7 - 13			2.5Y 6/1	20	D	M		
13 - 20	10YR 6/1	90	7.5YR 5/8	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:

A positive indication of hydric soil was observed.

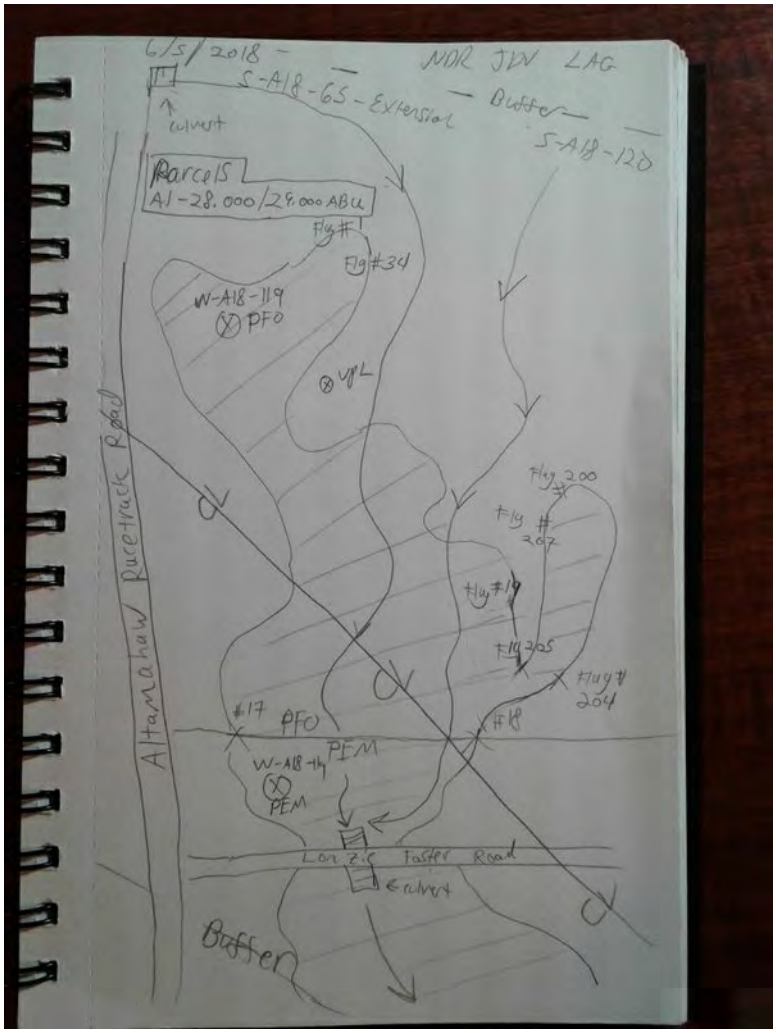
Photo of Sample Plot North

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:** Elon, Alamance County **Sampling Date:** 2018-June-05
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-119_PEM-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Foot slope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1994578 **Long:** -79.5010307 **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):	12
Saturation Present? (includes capillary fringe)	Yes ✓ No ____	Depth (inches):	12

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.

Sampling Point: W-A18-119_PEM-1

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

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. *Bidens frondosa*	20	Yes	FACW
2. *Carex bebbii*	20	Yes	OBL
3. *Persicaria sagittata*	20	Yes	OBL
4. *Dichanthelium clandestinum*	10	No	FAC
5. *Rubus hispidus*	10	No	FACW
6. *Spiraea tomentosa*	5	No	FACW
7.			
8.			
9.			
10.			
11.			
	85	= Total Cover	
50% of total cover: 42.5	20% of total cover: 17		

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	40	x 1 =	40
FACW species	35	x 2 =	70
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	85	(A)	140 (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.)

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

SOIL

Sampling Point: W-A18-119_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	2.5Y 4/2	95	7.5YR 5/8	5	C	PL	Sandy Loam	
5 - 14	2.5Y 5/1	85	7.5YR 5/8	15	C	M	Sandy Clay Loam	
14 - 20	2.5Y 6/3	70	10YR 5/8	20	C	M	Sand	
14 - 20			2.5Y 6/1	10	D	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:

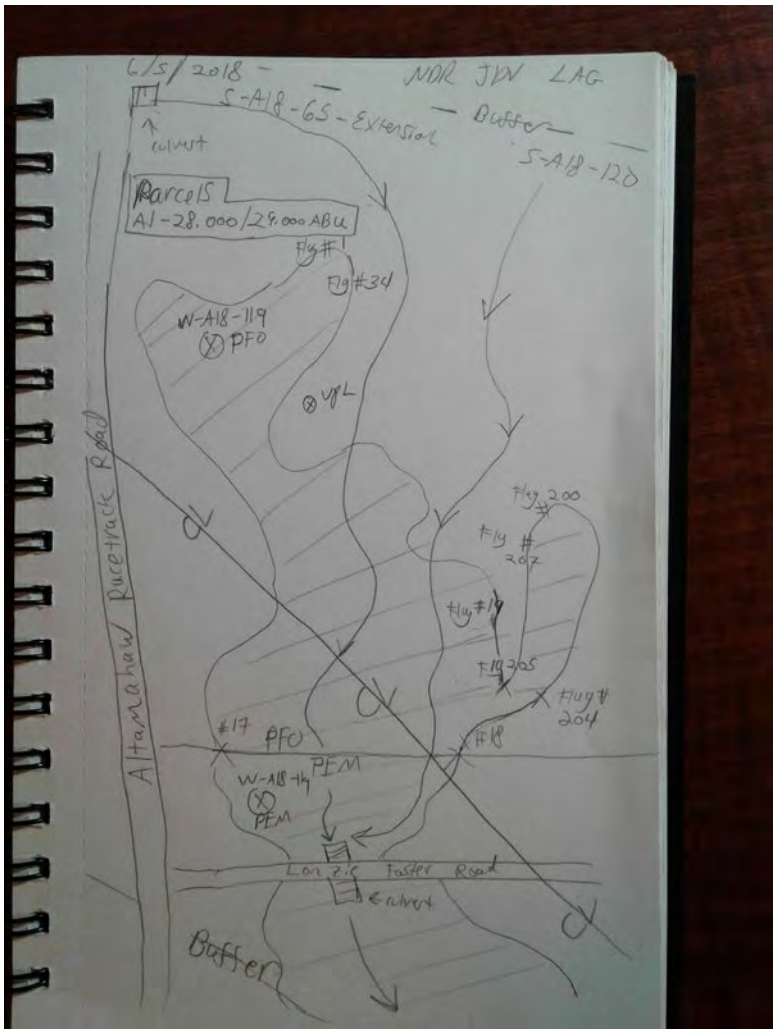
A positive indication of hydric soil was observed.

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot Sketch


6/5/2018
NDR JDV LAG
S-A18-65-Extension
Buffer
S-A18-120
culvert
Parcels
A1-28.000/29.000 ABU
Fly #1
Fly #34
W-A18-119
PFO
VPL
Fly 200
Fly # 207
Fly #19
Fly 205
Fly # 204
#17
PFO
PEM
#18
W-A18-14
PEM
Lon 2.C Foster Road
culvert
Buffer
Altamaha Racetrack Road

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Elon, Alamance County **Sampling Date:** 2018-June-05
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-119_UPL-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **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:** 36.1999594 **Long:** -79.5008666 **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):	_____
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:

The criterion for wetland hydrology is not met. Saturation at 17 inches.

Sampling Point: W-A18-119_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Yes	FAC
2. *Liriodendron tulipifera*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
50% of total cover: 15	20% of total cover: 6		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Prunus pensylvanica*	25	Yes	FACU
2. *Quercus phellos*	5	No	FAC
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. *Parthenocissus quinquefolia*	20	Yes	FACU
2. *Microstegium vimineum*	15	Yes	FAC
3.			
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: 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	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column Totals	95	(A)	340 (B)

Prevalence Index = B/A = 3.6

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.)

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

SOIL

Sampling Point: W-A18-119_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 4/3	100					Silt Loam	
3 - 17	7.5YR 5/6	70	10YR 5/2	10	D	M	Clay Loam	
3 - 17			5YR 4/6	20	C	M		
17 - 22	10YR 5/2	95	7.5YR 5/8	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:

No positive indication of hydric soils was observed.

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:** Elon, Alamance County **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-64_PSS-1
Investigator(s): Will Buetow, Simon King, Susie Gifford **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:** 36.199439 **Long:** -79.5026181 **Datum:** WGS84
Soil Map Unit Name: HeC **NWI classification:** PSS
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):	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:

Sampling Point: W-B18-64_PSS-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
50% of total cover: 5	20% of total cover: 2		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Viburnum nudum*	50	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	50	= Total Cover	
50% of total cover: 25	20% of total cover: 10		

Herb Stratum (Plot size: 5)			
1. *Boehmeria cylindrica*	20	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 4		

Woody Vine Stratum (Plot size: 30)			
1. *Smilax rotundifolia*	30	Yes	FAC
2. *Vitis rotundifolia*	30	Yes	FAC
3.			
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:	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	50	x 1 =	50
FACW species	20	x 2 =	40
FAC species	70	x 3 =	210
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	140	(A)	300 (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-B18-64_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 - 5	10YR 3/1	100					Silt Loam	
5 - 18	10YR 3/1	95	7.5YR 3/3				Fine 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:

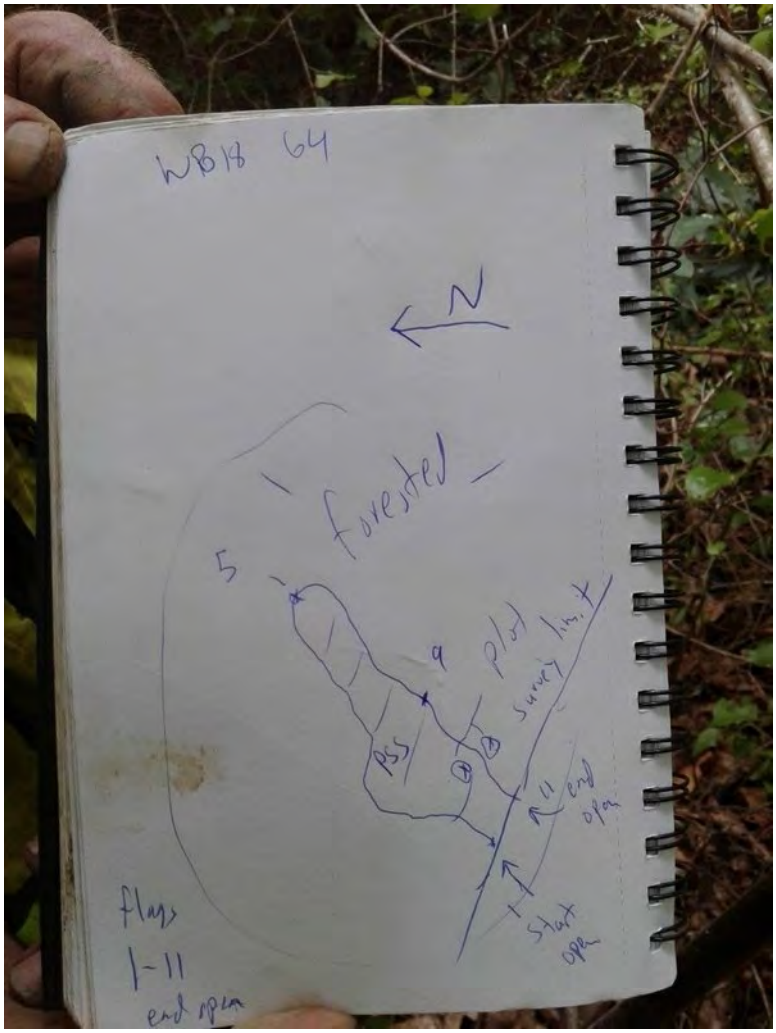
Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

Photo of Sample Plot Sketch



WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Elon, Alamance County **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-64_UPL-1
Investigator(s): Will Buetow, Simon King, Susie Gifford **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:** 36.1994488 **Long:** -79.5025896 **Datum:** WGS84
Soil Map Unit Name: HeC **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): _____
Saturation Present? Yes ____ No ✓ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

Sampling Point: W-B18-64_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus alba*	70	Yes	FACU
2. *Liriodendron tulipifera*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	90	= Total Cover	
50% of total cover: 45	20% of total cover: 18		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Quercus alba*	70	Yes	FACU
2. *Oxydendrum arboreum*	5	No	UPL
3. *Ilex opaca*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
	80	= Total Cover	
50% of total cover: 40	20% of total cover: 16		

Herb Stratum (Plot size: 5)			
1. *Vaccinium angustifolium*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10	= Total Cover	
50% of total cover: 5	20% of total cover: 2		

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:	1	(A)
Total Number of Dominant Species Across All Strata:	5	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	20	(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	175	x 4 =	700
UPL species	5	x 5 =	25
Column Totals	200	(A)	785 (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-B18-64_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 - 3	10YR 3/2	100					Sandy Loam	
3 - 8	10YR 4/3	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 South

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Elon, Alamance County **Sampling Date:** 2018-June-06
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-127_PFO-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **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:** 36.1974043 **Long:** -79.4979207 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam (HeB), 2 to 6 percent slopes **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):	_____
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:

The criterion for wetland hydrology is met.

Sampling Point: W-A18-127_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	30	Yes	FAC
2. *Liquidambar styraciflua*	25	Yes	FAC
3. *Liriodendron tulipifera*	10	No	FACU
4.			
5.			
6.			
7.			
	65	= Total Cover	
50% of total cover: 32.5	20% of total cover: 13		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Nyssa sylvatica*	20	Yes	FAC
2. *Acer rubrum*	10	Yes	FAC
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. *Osmunda spectabilis*	30	Yes	OBL
2. *Onoclea sensibilis*	25	Yes	FACW
3. *Microstegium vimineum*	25	Yes	FAC
4. *Viburnum nudum*	10	No	OBL
5. *Eutrochium purpureum*	5	No	FAC
6. *Smilax rotundifolia*	5	No	FAC
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.			
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	40	x 1 =	40
FACW species	25	x 2 =	50
FAC species	120	x 3 =	360
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals	195	(A)	490 (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.)

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

SOIL

Sampling Point: W-A18-127_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 3/1	100					Silt Loam	
5 - 9	2.5Y 5/1	90	10YR 5/8	10	C	M	Loamy Sand	
9 - 17	5Y 6/1	85	10YR 5/8	15	C	M	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:

A positive indication of hydric soil was observed.

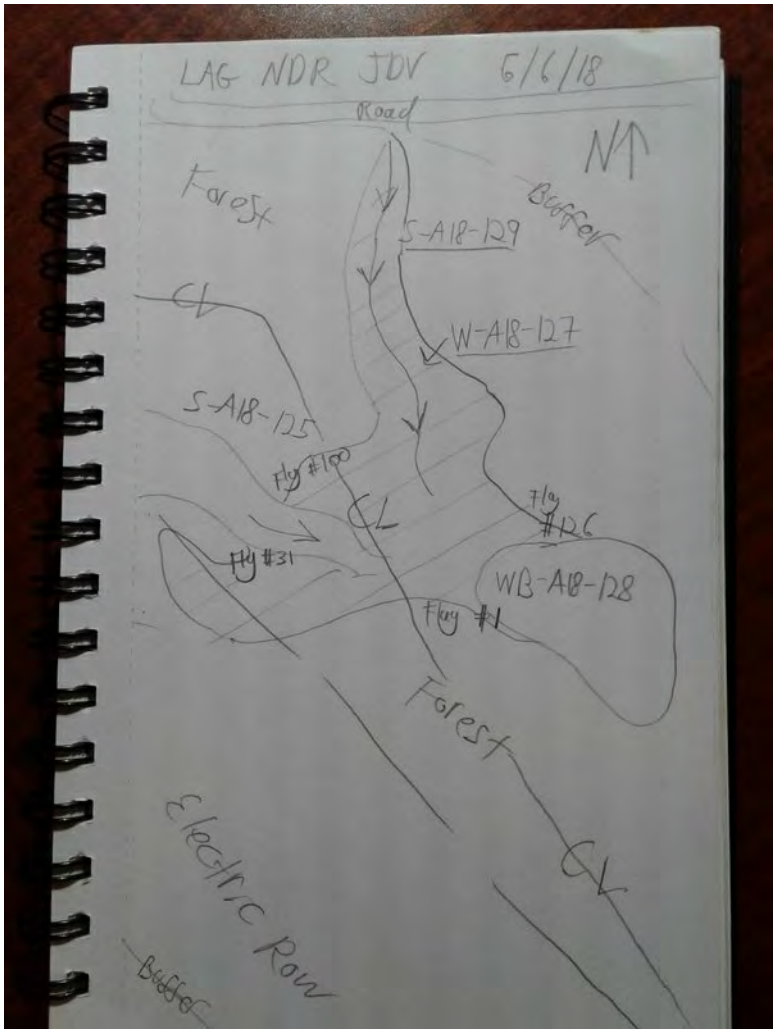
Photo of Sample Plot North

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:** Elon, Alamance County **Sampling Date:** 2018-June-06
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-127_UPL-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Convex **Slope (%):** 5 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1973058 **Long:** -79.4978384 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam (HeB), 2 to 6 percent slopes **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): _____
Saturation Present? Yes ____ No ✓ Depth (inches): _____
(includes capillary fringe)

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 not met.

Sampling Point: W-A18-127_UPL-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. *Liquidambar styraciflua*	30	Yes	FAC
3. *Acer rubrum*	25	Yes	FAC
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. *Juniperus virginiana*	10	Yes	FACU
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. *Euonymus americanus*	25	Yes	FAC
2. *Smilax rotundifolia*	15	Yes	FAC
3. *Vitis aestivalis*	10	No	FACU
4. *Lonicera japonica*	10	No	FACU
5.			
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:	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	95	x 3 =	285
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals	155	(A)	525 (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.)

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

SOIL

Sampling Point: W-A18-127_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	2.5Y 3/2	100					Silt Loam	
2 - 7	10YR 4/2	100					Sandy Loam	
7 - 16	2.5Y 6/1	100					Sand	
16 - 21	2.5Y 6/2	70	2.5Y 6/6	30	C	M	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:

No positive indication of hydric soils was observed.

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:** Elon, Alamance County **Sampling Date:** 2018-June-07
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-130_PFO-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1939733 **Long:** -79.4984487 **Datum:** WGS84
Soil Map Unit Name: Frogsboro Sandy loam (FgB) 2 to 6 percent slopes **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):	7	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ✓ No ____	Depth (inches):	7	

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

Remarks:

The criterion for wetland hydrology is met.

Sampling Point: W-A18-130_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	40	Yes	FAC
2. *Liquidambar styraciflua*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	60	= Total Cover	
50% of total cover: 30	20% of total cover: 12		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Ulmus rubra*	10	Yes	FAC
2. *Nyssa sylvatica*	5	Yes	FAC
3. *Prunus virginiana*	5	Yes	FACU
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. *Juncus effusus*	10	Yes	FACW
2. *Toxicodendron radicans*	10	Yes	FAC
3. *Lycopus virginicus*	5	No	OBL
4. *Parthenocissus quinquefolia*	5	No	FACU
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: 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	5	x 1 =	5
FACW species	10	x 2 =	20
FAC species	85	x 3 =	255
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals	110	(A)	320 (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).

SOIL

Sampling Point: W-A18-130_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 3/2	100					Silt Loam	
3 - 7	2.5Y 6/3	80	10YR 5/8	10	C	M	Loamy Sand	
3 - 7			2.5Y 6/1	10	D	M		
7 - 18	2.5Y 5/1	95	7.5YR 4/6	5	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:

A positive indication of hydric soil was observed.

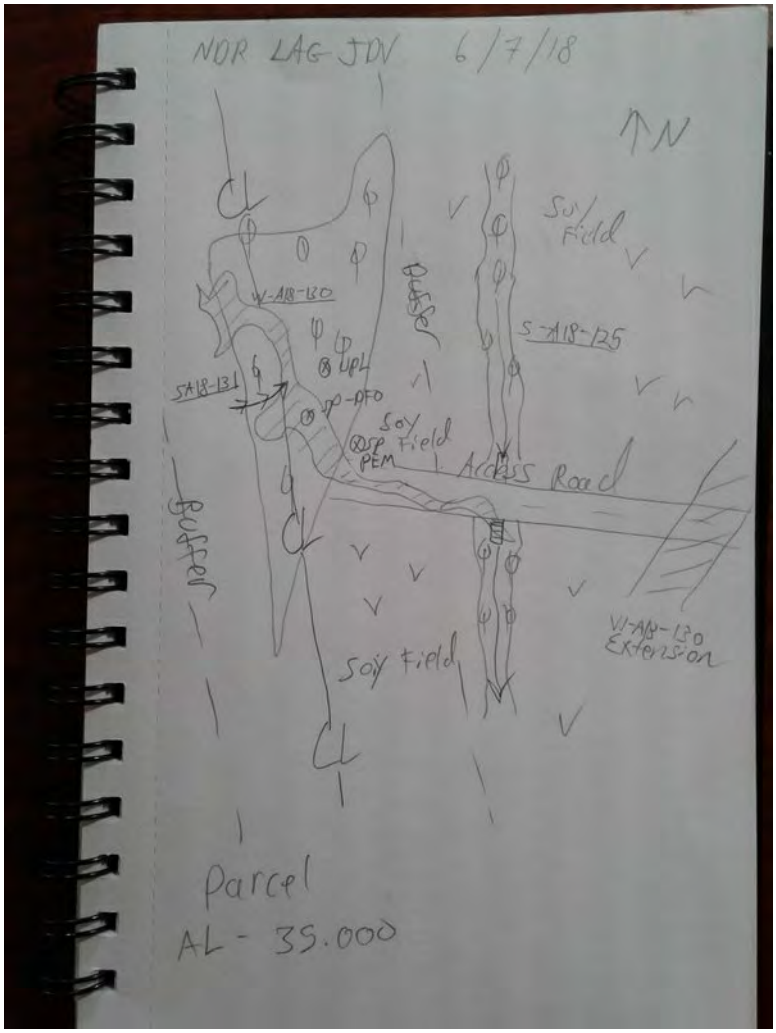
Photo of Sample Plot North

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:** Elon, Alamance County **Sampling Date:** 2018-June-07
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-130_PEM-2
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **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:** 36.1934138 **Long:** -79.4971066 **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):	_____
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. Soil is episaturated. Saturated from 0 to 4 inches.

Sampling Point: W-A18-130_PEM-2

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

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*	25	Yes	FACW
2. *Carex lurida*	20	Yes	OBL
3. *Juncus tenuis*	15	Yes	FAC
4. *Leersia virginica*	15	Yes	FACW
5. *Cephalanthus occidentalis*	5	No	OBL
6. *Scirpus atrovirens*	5	No	OBL
7. *Lonicera japonica*	5	No	FACU
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:	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	30	x 1 =	30
FACW species	40	x 2 =	80
FAC species	15	x 3 =	45
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	90	(A)	175 (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.)

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

SOIL

Sampling Point: W-A18-130_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 - 1	10YR 3/2	100					Silt Loam	
1 - 5	2.5Y 5/1	95	7.5YR 4/6	5	C	M	Silt Loam	
5 - 16	2.5Y 5/2	90	7.5YR 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:

A positive indication of hydric soil was observed.

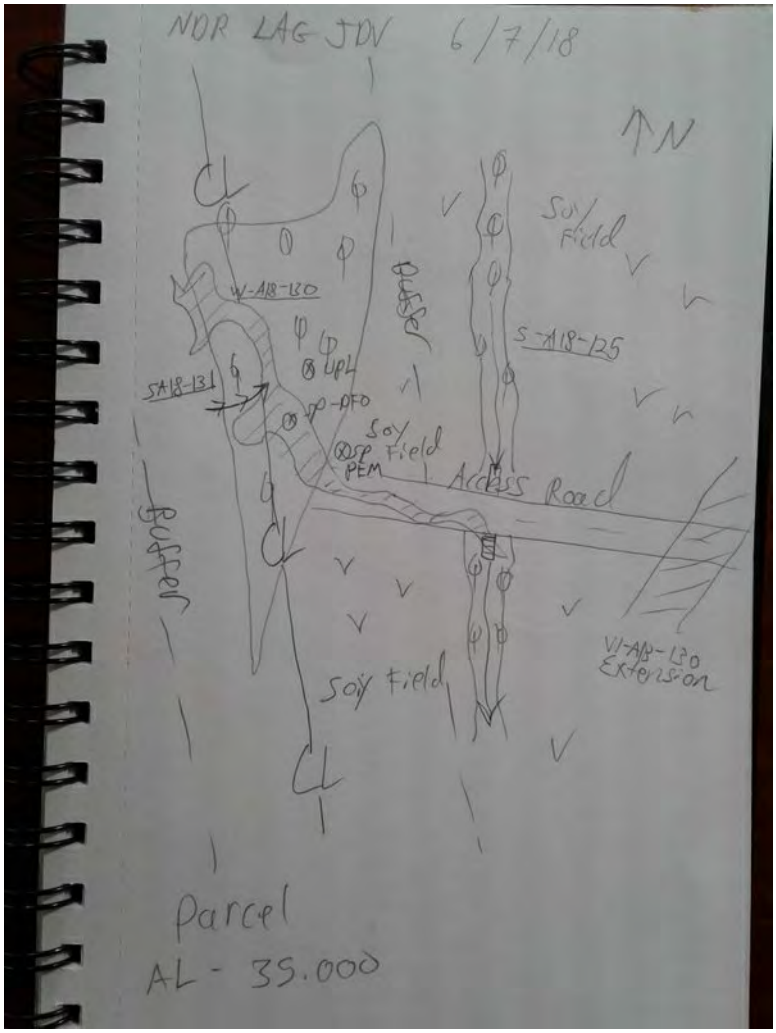
Photo of Sample Plot North

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:** Elon, Alamance County **Sampling Date:** 2018-June-07
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-130_UPL-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1943236 **Long:** -79.4975977 **Datum:** WGS84
Soil Map Unit Name: Frogsboro Sandy loam (FgB), 2 to 6 percent slopes **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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-130_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	30	Yes	FAC
2. *Acer rubrum*	15	Yes	FAC
3. *Quercus phellos*	15	Yes	FAC
4. *Nyssa sylvatica*	15	Yes	FAC
5.			
6.			
7.			
	75	= Total Cover	
50% of total cover: 37.5	20% of total cover: 15		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Liquidambar styraciflua*	10	Yes	FAC
2. *Nyssa sylvatica*	5	Yes	FAC
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. *Parthenocissus quinquefolia*	5	Yes	FACU
2. *Nyssa sylvatica*	5	Yes	FAC
3. *Smilax rotundifolia*	5	Yes	FAC
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: 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:	9	(A)
Total Number of Dominant Species Across All Strata:	10	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	90	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	120	x 3 =	360
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	125	(A)	380 (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.)

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

SOIL

Sampling Point: W-A18-130_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 3/2	100					Silt Loam	
1 - 11	10YR 5/3	98	7.5YR 5/8	2	C	M	Silt Loam	
11 - 15	2.5Y 5/3	90	7.5YR 5/8	10	C	M	Silt Loam	
15 - 20	2.5Y 5/2	95	7.5YR 4/6	5	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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Elon, Alamance County **Sampling Date:** 2018-June-07
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-133_PFO-2
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **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:** 36.1910963 **Long:** -79.496551 **Datum:** WGS84
Soil Map Unit Name: Chewacla loam (ChA) 0 to 2 percent slopes **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):	19	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ✓ No ____	Depth (inches):	11	

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

Remarks:

The criterion for wetland hydrology is met.

Sampling Point: W-A18-133_PFO-2

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Yes	FAC
2. *Quercus phellos*	20	Yes	FAC
3. *Liquidambar styraciflua*	15	Yes	FAC
4.			
5.			
6.			
7.			
	55	= Total Cover	
50% of total cover: 27.5	20% of total cover:	11	

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. *Microstegium vimineum*	35	Yes	FAC
2. *Toxicodendron radicans*	30	Yes	FAC
3. *Prunella vulgaris*	5	No	FACU
4. *Juncus effusus*	5	No	FACW
5. *Smilax rotundifolia*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	80	= Total Cover	
50% of total cover: 40	20% of total cover:	16	

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	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	125	x 3 =	375
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	135	(A)	405 (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.)

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

SOIL

Sampling Point: W-A18-133_PFO-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 3/2	100					Silt Loam	
1 - 9	2.5Y 5/3	80	10YR 5/8	15	C	M	Silt Loam	
1 - 9			2.5Y 5/2	5	D	M		
9 - 18	2.5Y 5/2	90	7.5YR 4/6	10	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:

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:** Elon, Alamance County **Sampling Date:** 2018-June-07
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-133_PEM-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.190523 **Long:** -79.4967755 **Datum:** WGS84
Soil Map Unit Name: Chewacla loam (ChA) 0 to 2 percent slopes **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):	7	**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.

Sampling Point: W-A18-133_PEM-1

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

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. *Symphyotrichum puniceum*	30	Yes	OBL
2. *Carex lurida*	30	Yes	OBL
3. *Impatiens capensis*	20	No	FACW
4. *Carex bebbii*	10	No	OBL
5. *Persicaria sagittata*	10	No	OBL
6. *Erigeron annuus*	5	No	FACU
7. *Cicuta maculata*	5	No	OBL
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:	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	85	x 1 =	85
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	110	(A)	145 (B)

Prevalence Index = B/A = 1.3

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-A18-133_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 - 11	10Y 5/1	85	7.5YR 5/8	15	C	M/PL	Silt Loam	
11 - 20	N 5/	80	7.5YR 5/8	20	C	M/PL	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.

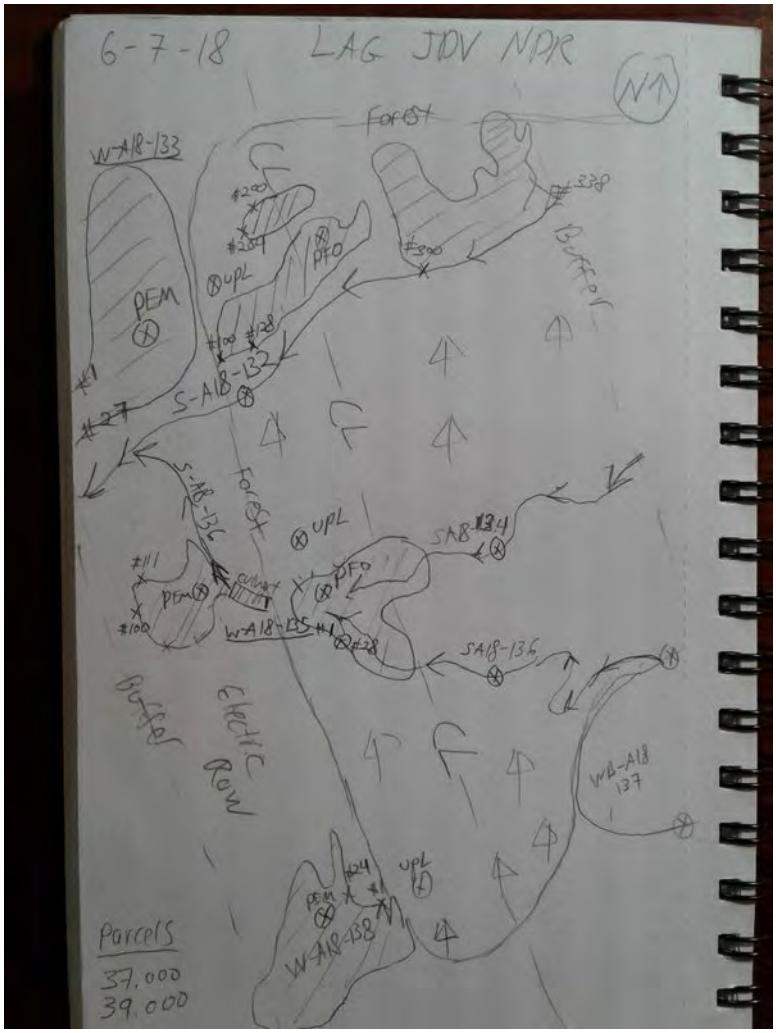
Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

Photo of Sample Plot Sketch



WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Elon, Alamance County **Sampling Date:** 2018-June-07
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-133_UPL-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **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:** 36.1911226 **Long:** -79.4965029 **Datum:** WGS84
Soil Map Unit Name: Chewacla loam (ChA) 0 to 2 percent slopes **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): _____
Saturation Present? Yes ✓ No ____ Depth (inches): 19
(includes capillary fringe)

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 not met.

Sampling Point: W-A18-133_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	20	Yes	FAC
2. *Ulmus rubra*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
50% of total cover: 15	20% of total cover: 6		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Juniperus virginiana*	10	Yes	FACU
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. *Microstegium vimineum*	35	Yes	FAC
2. *Parthenocissus quinquefolia*	10	No	FACU
3. *Fraxinus pennsylvanica*	10	No	FACW
4. *Onoclea sensibilis*	5	No	FACW
5. *Solidago rugosa*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	65	= Total Cover	
50% of total cover: 32.5	20% of total cover: 13		

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	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	70	x 3 =	210
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals	105	(A)	320 (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.)

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

SOIL

Sampling Point: W-A18-133_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 - 9	10YR 5/4	100					Silt Loam	
9 - 19	2.5Y 5/3	80	7.5YR 5/6	15	C	M	Silt Loam	
9 - 19			2.5Y 5/2	5	D	M		
19 - 23	2.5Y 5/1	95	10YR 5/6	5	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:

No positive indication of hydric soils was observed.

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:** Elon, Alamance County **Sampling Date:** 2018-June-07
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-135_PFO-2
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **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:** 36.1896664 **Long:** -79.4962006 **Datum:** WGS84
Soil Map Unit Name: Chewacla loam (ChA) 0 to 2 percent slopes **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):	_____
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.

Sampling Point: W-A18-135_PFO-2

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	25	Yes	FAC
2. *Quercus phellos*	25	Yes	FAC
3. *Acer rubrum*	10	No	FAC
4.			
5.			
6.			
7.			
	60	= Total Cover	
50% of total cover: 30	20% of total cover:	12	

Sapling/Shrub Stratum (Plot size: 15)			
1. *Liquidambar styraciflua*	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. *Smilax rotundifolia*	15	Yes	FAC
2. *Juncus effusus*	10	Yes	FACW
3. *Dichanthelium dichotomum*	10	Yes	FAC
4. *Campsis radicans*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	
50% of total cover: 20	20% of total cover:	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:	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	10	x 2 =	20
FAC species	105	x 3 =	315
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	115	(A)	335 (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).

SOIL

Sampling Point: W-A18-135_PFO-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 - 4	10YR 3/1	95	7.5YR 4/6	5	C	M	Silt Loam	
4 - 12	2.5Y 5/1	95	7.5YR 5/8	5	C	M	Loamy Sand	
12 - 16	2.5Y 7/1	95	10YR 5/8	5	C	PL	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/root
Depth (inches): 16

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:** Elon, Alamance County **Sampling Date:** 2018-June-07
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-135_PEM-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **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:** 36.1896287 **Long:** -79.4964313 **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):	_____
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.

Sampling Point: W-A18-135_PEM-1

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

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. *Carex lurida*	60	Yes	OBL
2. *Galium palustre*	15	No	OBL
3. *Dichanthelium clandestinum*	10	No	FAC
4. *Erigeron annuus*	5	No	FACU
5. *Eutrochium purpureum*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	95	= Total Cover	
50% of total cover: 47.5	20% of total cover: 19		

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:	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	75	x 1 =	75
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	95	(A)	140 (B)

Prevalence Index = B/A = 1.5

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.)

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

SOIL

Sampling Point: W-A18-135_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	10Y 4/1	90	7.5YR 4/6	10	C	M/PL	Silt Loam	
5 - 17	2.5Y 5/1	85	7.5YR 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:

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:** Elon, Alamance County **Sampling Date:** 2018-June-07
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-135_UPL-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Foot slope **Local relief (concave, convex, none):** Convex **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1896533 **Long:** -79.4961765 **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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-135_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	30	Yes	FAC
2. *Quercus phellos*	20	Yes	FAC
3. *Pinus virginiana*	10	No	UPL
4. *Juniperus virginiana*	10	No	FACU
5.			
6.			
7.			
	70	= Total Cover	
50% of total cover: 35	20% of total cover: 14		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Liquidambar styraciflua*	10	Yes	FAC
2. *Ulmus rubra*	10	Yes	FAC
3. *Quercus phellos*	10	Yes	FAC
4. *Prunus pensylvanica*	10	Yes	FACU
5.			
6.			
7.			
8.			
9.			
	40	= Total Cover	
50% of total cover: 20	20% of total cover: 8		

Herb Stratum (Plot size: 5)			
1. *Liquidambar styraciflua*	15	Yes	FAC
2. *Vaccinium corymbosum*	10	Yes	FACW
3. *Rubus idaeus*	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: 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:	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	10	x 2 =	20
FAC species	100	x 3 =	300
FACU species	20	x 4 =	80
UPL species	10	x 5 =	50
Column Totals	140	(A)	450 (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-A18-135_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 4/3	100					Loamy Sand	
6 - 13	10YR 4/3	60					Sand	
6 - 13	10YR 6/3	40						
13 - 16	2.5Y 5/3	80	7.5YR 5/8	15	C	M	Clay	
13 - 16			2.5Y 6/1	5	D	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: Dense clay
Depth (inches): 16

Hydric Soil Present? Yes ☐ No ☑

Remarks:

No positive indication of hydric soils was observed.

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:** Elon, Alamance County **Sampling Date:** 2018-June-07
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-138_PEM-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.188329 **Long:** -79.4959789 **Datum:** WGS84
Soil Map Unit Name: Frogsboro Sandy loam (FgB) 2 to 6 percent slopes **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):	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:

The criterion for wetland hydrology is met.

Sampling Point: W-A18-138_PEM-1

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

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 acuminatus*	20	Yes	OBL
2. *Carex bebbii*	20	Yes	OBL
3. *Carex lurida*	20	Yes	OBL
4. *Eleocharis obtusa*	20	Yes	OBL
5. *Juncus effusus*	10	No	FACW
6. *Dichanthelium clandestinum*	10	No	FAC
7. *Campsis radicans*	10	No	FAC
8. *Scirpus atrovirens*	5	No	OBL
9. *Rubus allegheniensis*	5	No	FACU
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:	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	85	x 1 =	85
FACW species	10	x 2 =	20
FAC species	20	x 3 =	60
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	120	(A)	185 (B)

Prevalence Index = B/A = 1.5

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.)

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

SOIL

Sampling Point: W-A18-138_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 - 2	2.5Y 4/2	100					Silt Loam	
2 - 5	2.5Y 4/2	90	7.5YR 4/6	10	C	M	Silt Loam	
5 - 15	2.5Y 5/2	85	7.5YR 5/8	15	C	M/PL	Silty Clay Loam	
15 - 19	2.5Y 6/1	90	7.5YR 5/8	10	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:

The criterion for hydric soil is met.

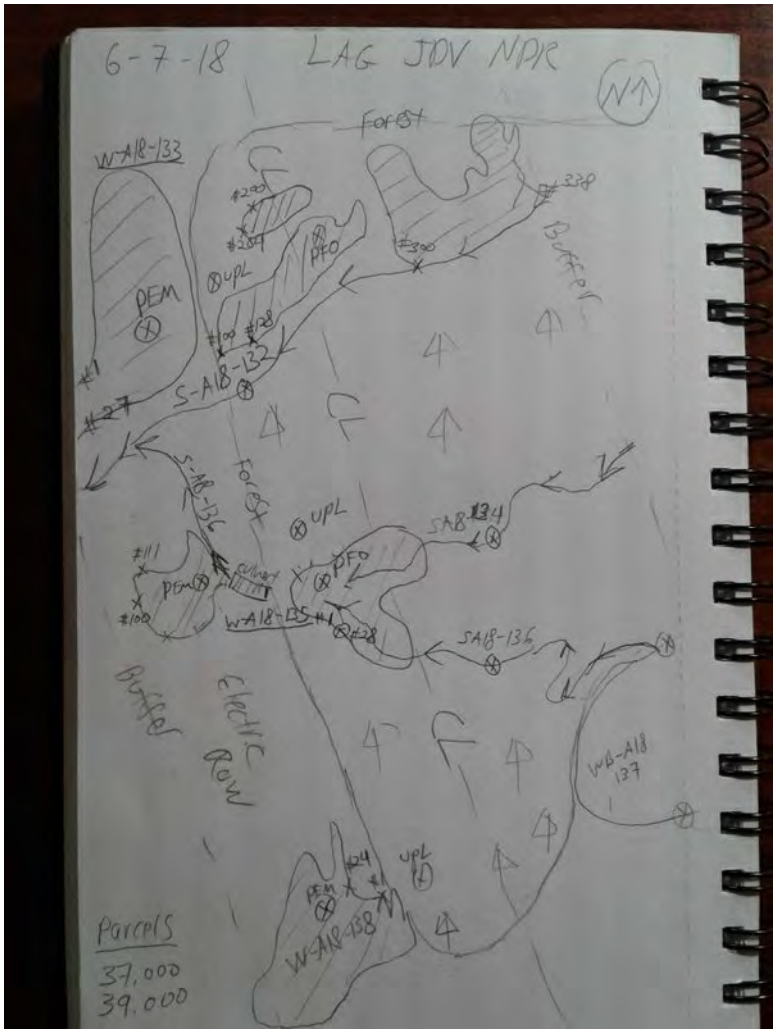
Photo of Sample Plot North

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:** Elon, Alamance County **Sampling Date:** 2018-June-07
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-138_UPL-1
Investigator(s): Nathan Renaudin, Jeff Vandeveer , Laura Giese **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Terrace **Local relief (concave, convex, none):** None **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1883497 **Long:** -79.4958085 **Datum:** WGS84
Soil Map Unit Name: Helena 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. Electric Right of Way found 70 feet west of sample point.

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):	_____

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

No positive indication of wetland hydrology was observed.

Sampling Point: W-A18-138_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus virginiana*	50	Yes	UPL
2. *Quercus phellos*	20	Yes	FAC
3. *Liquidambar styraciflua*	10	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. *Liquidambar styraciflua*	15	Yes	FAC
2. *Quercus phellos*	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.			
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.			
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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	55	x 3 =	165
FACU species	0	x 4 =	0
UPL species	50	x 5 =	250
Column Totals	105	(A)	415 (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.)

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

SOIL

Sampling Point: W-A18-138_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	100					Silt	
2 - 13	10YR 4/4	100					Silt	
13 - 20	10YR 5/3	95	10YR 6/8	5	C	M	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:

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:** Burlington, Alamance ... **Sampling Date:** 2018-June-08
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-139_PSS-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1852105 **Long:** -79.4943172 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam (HeC) 6 to 10 percent slopes **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):	
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:

The criterion for wetland hydrology is met. Soil is episaturated. Saturated from 0 to 4 inches .

Sampling Point: W-A18-139_PSS-1

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

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)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	45	Yes	OBL
2. *Fraxinus pennsylvanica*	10	No	FACW
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)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Microstegium vimineum*	30	Yes	FAC
2. *Glyceria striata*	25	Yes	OBL
3. *Parthenocissus quinquefolia*	10	No	FACU
4. *Typha latifolia*	5	No	OBL
5. *Eupatorium perfoliatum*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	75	= Total Cover	
50% of total cover: 37.5	20% of total cover: 15		

Woody Vine Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
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	75	x 1 =	75
FACW species	15	x 2 =	30
FAC species	30	x 3 =	90
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals	130	(A)	235 (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 (>50% of dominant species indexed as OBL, FACW, or FAC).

SOIL

Sampling Point: W-A18-139_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 - 5	2.5Y 5/2	90	7.5YR 5/8	10	C	M	Sandy Loam	
5 - 14	2.5Y 5/3	70	7.5YR 5/8	20	C	M	Clay Loam	
5 - 14			2.5Y 5/2	10	D	M		
14 - 20	2.5Y 5/2	70	7.5YR 4/6	30	C	M	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:

A positive indication of hydric soil was observed.

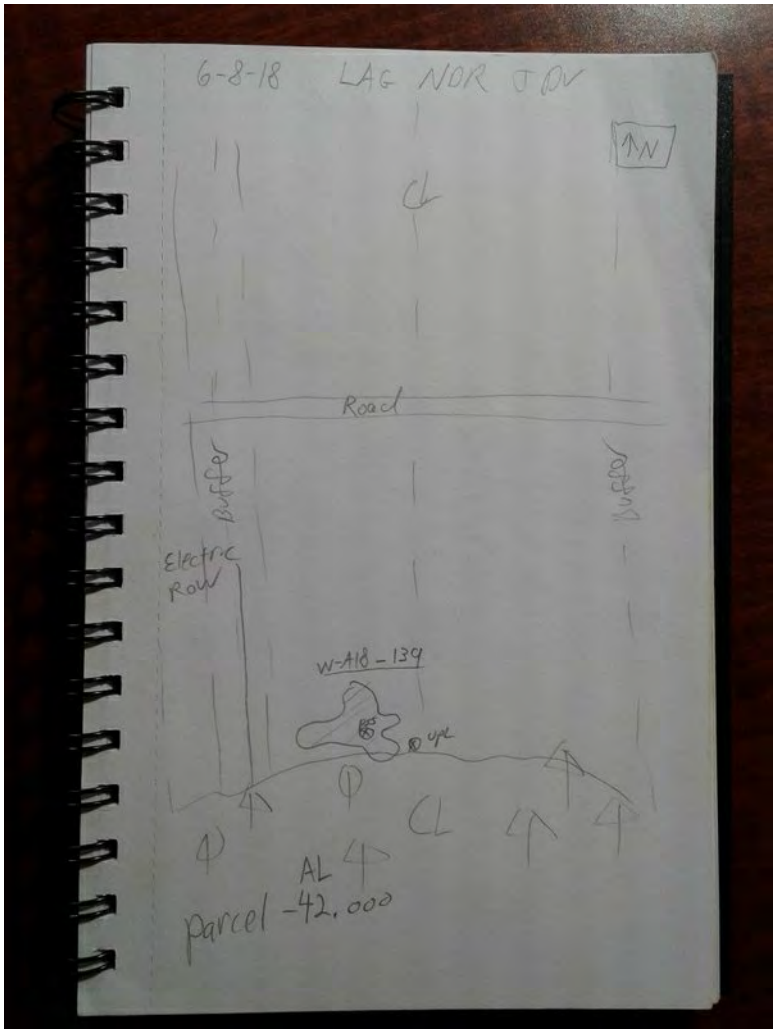
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-June-08
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-139_UPL-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1850708 **Long:** -79.4940994 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam (HeC) 6 to 10 percent slopes **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):	
Saturation Present? (includes capillary fringe)	Yes ✓ No ____	Depth (inches):	17

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 not met.

Sampling Point: W-A18-139_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Yes	FAC
2. *Juniperus virginiana*	10	Yes	FACU
3. *Ulmus rubra*	10	Yes	FAC
4.			
5.			
6.			
7.			
	40	= Total Cover	
50% of total cover: 20	20% of total cover: 8		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Juniperus virginiana*	5	Yes	FACU
2. *Lindera benzoin*	5	Yes	FAC
3. *Ligustrum sinense*	5	Yes	FACU
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. *Parthenocissus quinquefolia*	25	Yes	FACU
2. *Potentilla simplex*	10	Yes	FACU
3. *Lonicera japonica*	10	Yes	FACU
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:	9	(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	35	x 3 =	105
FACU species	65	x 4 =	260
UPL species	0	x 5 =	0
Column Totals	100	(A)	365 (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-A18-139_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 3/2	100					Silt Loam	
1 - 4	10YR 5/4	100					Silt Loam	
4 - 17	10YR 5/4	95	10YR 5/8	5	C	M	Loam	manganese soft masses
17 - 21	2.5Y 5/2	90	5YR 4/4	10	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 not met.

Photo of Sample Plot East

Photo of Sample Plot South

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** 4, Morton, Alamance … **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-03_PEM-1
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1807616 **Long:** -79.4946087 **Datum:** WGS84
Soil Map Unit Name: Chewacla 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 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):	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:

A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-C18-03_PEM-1

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

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. *Carpinus caroliniana*	5	Yes	FAC
2. *Liquidambar styraciflua*	5	Yes	FAC
3. *Ulmus rubra*	5	Yes	FAC
4. *Liriodendron tulipifera*	5	Yes	FACU
5. *Rubus allegheniensis*	5	Yes	FACU
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*	30	Yes	FAC
2. *Impatiens capensis*	10	Yes	FACW
3. *Eutrochium purpureum*	5	No	FAC
4. *Boehmeria cylindrica*	5	No	FACW
5. *Solidago gigantea*	5	No	FACW
6. *Ludwigia alternifolia*	5	No	FACW
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. *Toxicodendron radicans*	10	Yes	FAC
2. *Mikania scandens*	10	Yes	FACW
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:	9	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	77.8	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	60	x 3 =	180
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals	105	(A)	290 (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-C18-03_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 3/2	90	7.5YR 4/6	10	C	M	Sandy Loam	
4 - 18	10YR 5/2	80	7.5YR 4/6	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: None

Depth (inches):

Hydric Soil Present? Yes ☑ No ☐

Remarks:

A positive indication of hydric soil was observed.

Hydrology Photos

Vegetation Photos

Soil Photos

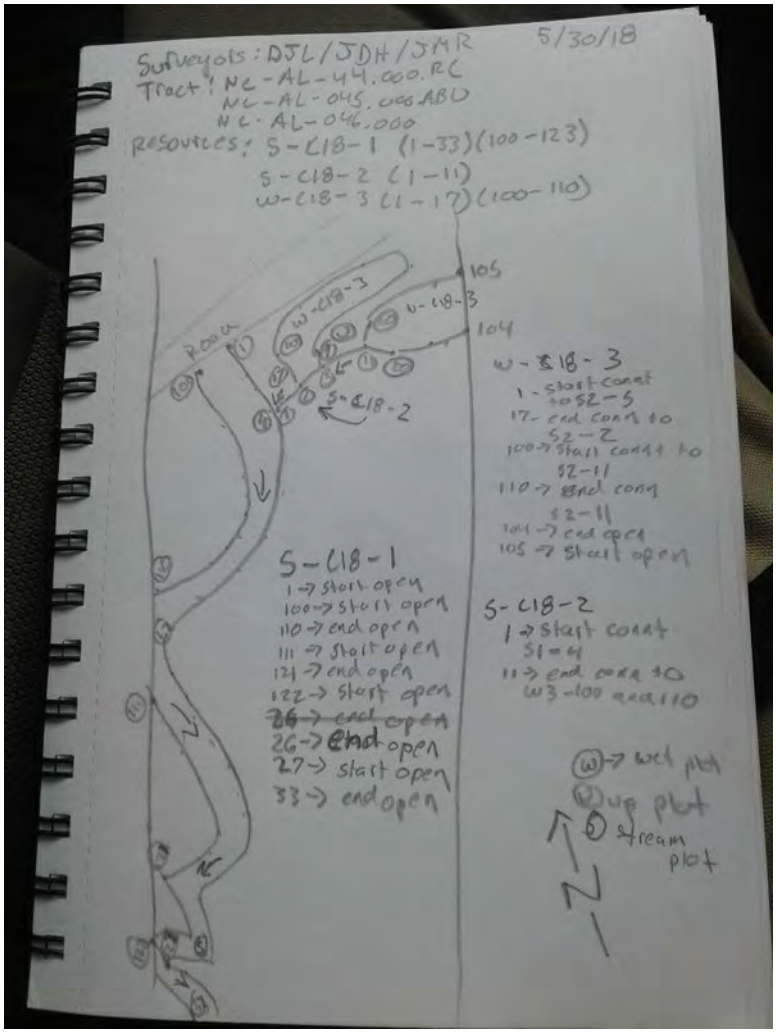
Photo of Sample Plot North

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:** 4, Morton, Alamance … **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-03_PFO-2
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1807271 **Long:** -79.4944786 **Datum:** WGS84
Soil Map Unit Name: Chewacla 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):	1
Water Table Present?	Yes ✓ No ____	Depth (inches):	16
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:

A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-C18-03_PFO-2

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	60	Yes	FAC
2. *Platanus occidentalis*	15	No	FACW
3. *Liriodendron tulipifera*	10	No	FACU
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. *Celtis laevigata*	20	Yes	FACW
2. *Ilex opaca*	10	Yes	FACU
3. *Juniperus virginiana*	10	Yes	FACU
4. *Liquidambar styraciflua*	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. *Impatiens pallida*	10	Yes	FACW
2. *Boehmeria cylindrica*	10	Yes	FACW
3. *Lycopus americanus*	10	Yes	OBL
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: 30)			
1. *Toxicodendron radicans*	15	Yes	FAC
2. *Parthenocissus quinquefolia*	10	Yes	FACU
3.			
4.			
5.			
	25	= Total Cover	
50% of total cover: 12.5	20% of total cover: 5		

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	10	x 1 =	10
FACW species	55	x 2 =	110
FAC species	85	x 3 =	255
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals	190	(A)	535 (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-C18-03_PFO-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 - 4	10YR 4/2	90	7.5YR 4/6	10	C	M	Sandy Loam	
4 - 18	10YR 5/2	70	7.5YR 4/6	30	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.

Hydrology Photos

Vegetation Photos

Soil Photos

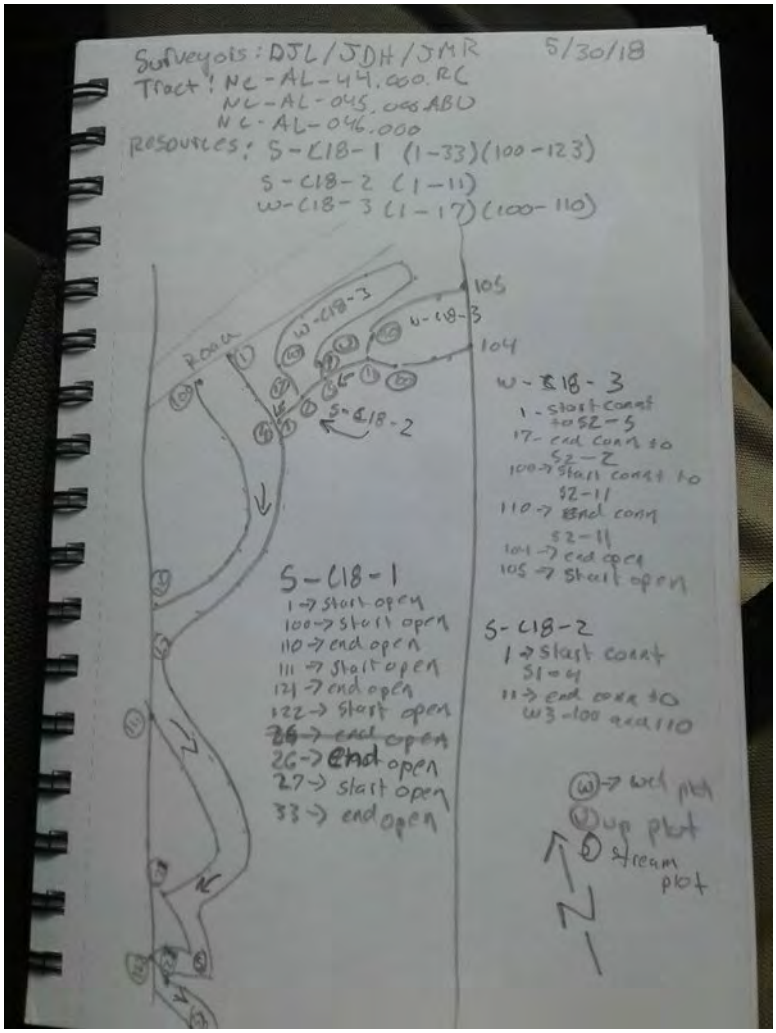
Photo of Sample Plot North

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:** 4, Morton, Alamance … **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-03_UPL-1
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1806651 **Long:** -79.4945001 **Datum:** WGS84
Soil Map Unit Name: Helena 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):	_____
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:

No positive indication of wetland hydrology was observed.

Sampling Point: W-C18-03_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juglans nigra*	30	Yes	FACU
2. *Liquidambar styraciflua*	10	Yes	FAC
3. *Liriodendron tulipifera*	10	Yes	FACU
4. *Celtis laevigata*	10	Yes	FACW
5.			
6.			
7.			
	60	= Total Cover	
50% of total cover: 30	20% of total cover:	12	

Sapling/Shrub Stratum (Plot size: 15)			
1. *Celtis laevigata*	10	Yes	FACW
2. *Carpinus caroliniana*	10	Yes	FAC
3. *Ligustrum sinense*	10	Yes	FACU
4. *Acer negundo*	10	Yes	FAC
5.			
6.			
7.			
8.			
9.			
	40	= Total Cover	
50% of total cover: 20	20% of total cover:	8	

Herb Stratum (Plot size: 5)			
1. *Podophyllum peltatum*	15	Yes	FACU
2.			
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: 30)			
1. *Lonicera japonica*	10	Yes	FACU
2. *Vitis rotundifolia*	10	Yes	FAC
3. *Smilax rotundifolia*	10	Yes	FAC
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:	12	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	58.3	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	50	x 3 =	150
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals	145	(A)	490 (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-C18-03_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 3/3	100					Sandy Loam	
3 - 18	10YR 3/6	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

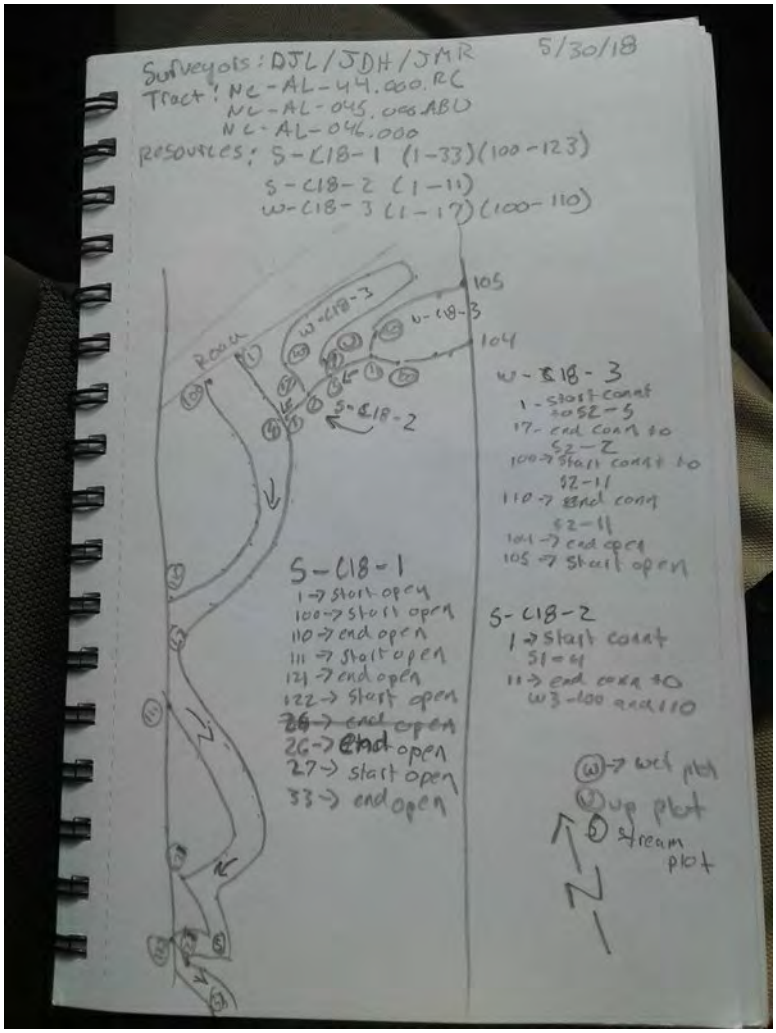
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-05_PEM-2
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1788911 **Long:** -79.4942137 **Datum:** WGS84
Soil Map Unit Name: Chewacla 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):	1
Water Table Present?	Yes ✓ No ____	Depth (inches):	10
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:

A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-C18-05_PEM-2

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

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. *Agrostis stolonifera*	80	Yes	FACW
2. *Solidago gigantea*	20	No	FACW
3. *Eutrochium purpureum*	15	No	FAC
4. *Boehmeria cylindrica*	10	No	FACW
5. *Carex vulpinoidea*	10	No	OBL
6. *Impatiens capensis*	5	No	FACW
7. *Carex lurida*	5	No	OBL
8.			
9.			
10.			
11.			
	145	= Total Cover	
50% of total cover: 72.5	20% of total cover: 29		

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:	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	15	x 1 =	15
FACW species	115	x 2 =	230
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	145	(A)	290 (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-C18-05_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 - 3	10YR 3/2	100					Sandy Loam	
3 - 18	10YR 5/2	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:

A positive indication of hydric soil was observed.

Hydrology Photos

Vegetation Photos

Soil Photos

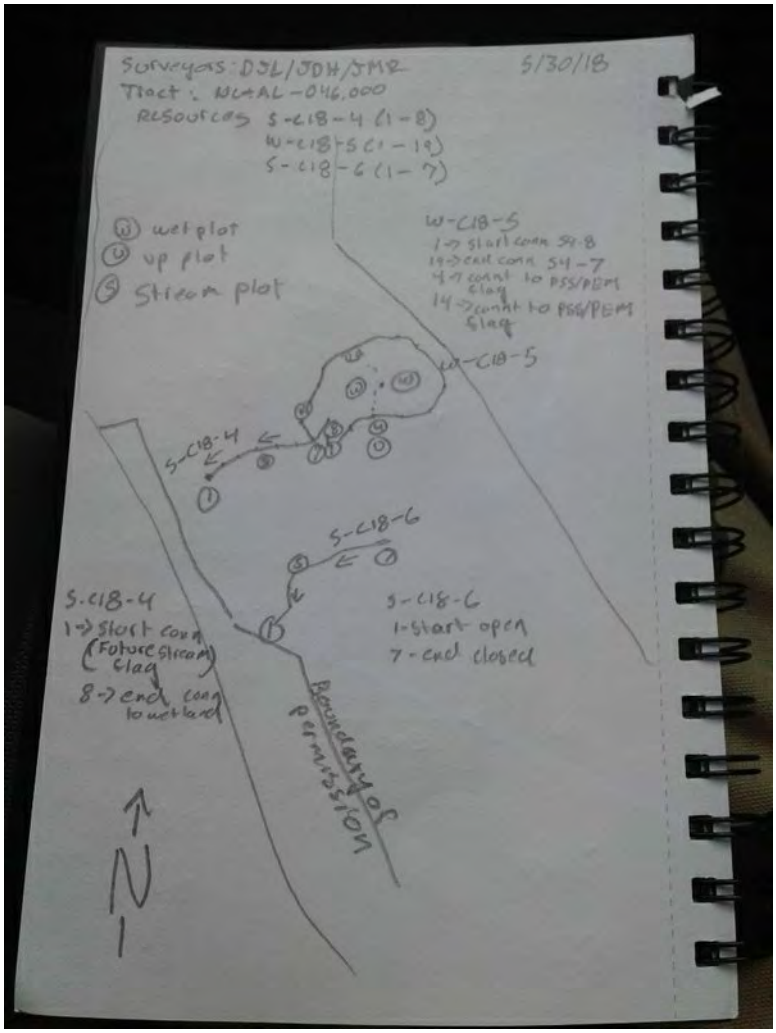
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-05_PSS-1
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1786201 **Long:** -79.4939349 **Datum:** WGS84
Soil Map Unit Name: Chewacla 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):	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:

A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-C18-05_PSS-1

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

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)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	30	Yes	OBL
2. *Sambucus nigra*	20	Yes	FAC
3. *Cornus amomum*	15	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
	65	= Total Cover	
50% of total cover: 32.5	20% of total cover: 13		

Herb Stratum (Plot size: 5)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Agrostis stolonifera*	60	Yes	FACW
2. *Impatiens capensis*	30	Yes	FACW
3. *Solidago gigantea*	20	No	FACW
4. *Carex vulpinoidea*	15	No	OBL
5. *Carex lurida*	15	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: 30)	Absolute % Cover	Dominant Species?	Indicator Status
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	60	x 1 =	60
FACW species	125	x 2 =	250
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	205	(A)	370 (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-C18-05_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 - 1	10YR 3/2	100	10YR 3/2					
1 - 18	10YR 5/2	80	7.5YR 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:

A positive indication of hydric soil was observed.

Hydrology Photos

Vegetation Photos

Soil Photos

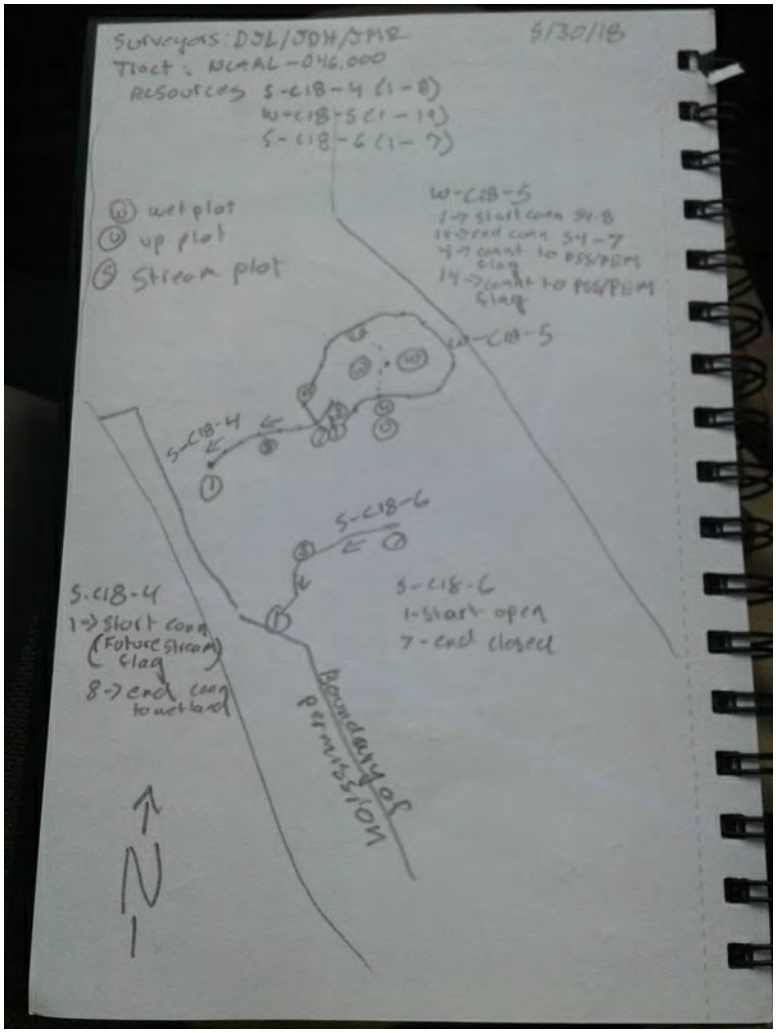
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-05_UPL-1
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Flood Plain **Local relief (concave, convex, none):** Undulating **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1785389 **Long:** -79.4941878 **Datum:** WGS84
Soil Map Unit Name: Chewacla loam Wehadkee Complex **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):	_____
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:

Sampling Point: W-C18-05_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	20	Yes	FAC
2. *Platanus occidentalis*	15	Yes	FACW
3. *Acer rubrum*	15	Yes	FAC
4. *Celtis laevigata*	10	No	FACW
5.			
6.			
7.			
	60	= Total Cover	
50% of total cover: 30	20% of total cover:	12	

Sapling/Shrub Stratum (Plot size: 15)			
1. *Celtis laevigata*	10	Yes	FACW
2. *Acer saccharum*	10	Yes	FACU
3. *Ligustrum sinense*	10	Yes	FACU
4. *Quercus alba*	10	Yes	FACU
5.			
6.			
7.			
8.			
9.			
	40	= Total Cover	
50% of total cover: 20	20% of total cover:	8	

Herb Stratum (Plot size: 5)			
1. *Fragaria virginiana*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10	= Total Cover	
50% of total cover: 5	20% of total cover:	2	

Woody Vine Stratum (Plot size: 30)			
1. *Lonicera japonica*	10	Yes	FACU
2. *Parthenocissus quinquefolia*	10	Yes	FACU
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:	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	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	35	x 3 =	105
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals	130	(A)	415 (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-C18-05_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 - 3	10YR 3/3	100					Sandy Loam	
3 - 18	10YR 4/3	90	10YR 3/6	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:

No positive indication of hydric soils was observed. The criterion for hydric soil is not met.

Hydrology Photos

Vegetation Photos

Soil Photos

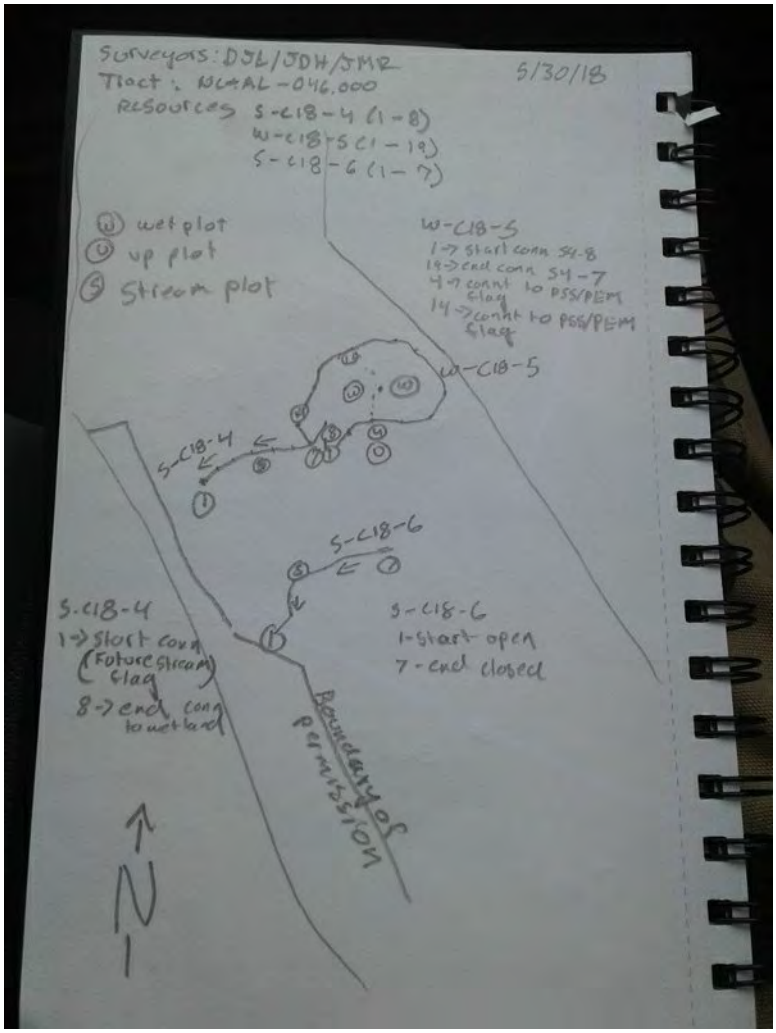
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-31
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-07_PFO-1
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Flood Plain **Local relief (concave, convex, none):** Undulating **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1777022 **Long:** -79.4938325 **Datum:** WGS84
Soil Map Unit Name: Chewacla 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): 1
Water Table Present? Yes ✓ No ____ Depth (inches): 8
Saturation Present? Yes ✓ No ____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ✓ No ____

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).

Sampling Point: W-C18-07_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	30	Yes	FAC
2. *Acer rubrum*	25	Yes	FAC
3. *Liriodendron tulipifera*	10	No	FACU
4.			
5.			
6.			
7.			
	65	= Total Cover	
50% of total cover: 32.5	20% of total cover:	13	

Sapling/Shrub Stratum (Plot size: 15)			
1. *Fraxinus pennsylvanica*	20	Yes	FACW
2. *Ligustrum sinense*	10	Yes	FACU
3. *Sambucus nigra*	10	Yes	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. *Microstegium vimineum*	30	Yes	FAC
2. *Boehmeria cylindrica*	10	Yes	FACW
3. *Impatiens capensis*	10	Yes	FACW
4.			
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: 30)			
1. *Toxicodendron radicans*	10	Yes	FAC
2. *Lonicera japonica*	10	Yes	FACU
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:	8	(A)
Total Number of Dominant Species Across All Strata:	10	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	80	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	105	x 3 =	315
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals	175	(A)	515 (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-C18-07_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 - 5	10YR 3/2	90	7.5YR 4/6	10	C	M	Sandy Loam	
5 - 18	10YR 5/1	70	10YR 4/6	30	C	M/PL	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:

A positive indication of hydric soil was observed. The criterion for hydric soil is met. According to the USDA NRCS the mapped soil type is classified as hydric.

Hydrology Photos

Soil Photos

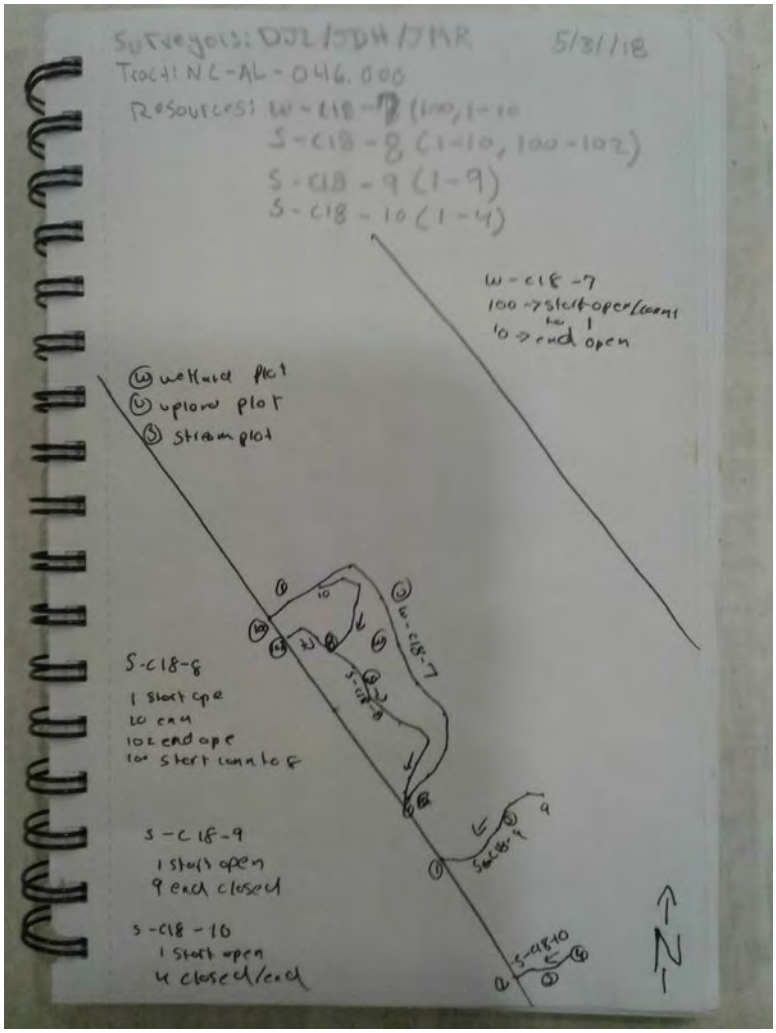
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-31
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-07_UPL-1
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **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:** 36.1777389 **Long:** -79.4935963 **Datum:** WGS84
Soil Map Unit Name: Helena 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):	_____
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:

No positive indication of wetland hydrology was observed.

Sampling Point: W-C18-07_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	15	Yes	FAC
2. *Acer rubrum*	10	Yes	FAC
3. *Liriodendron tulipifera*	10	Yes	FACU
4. *Quercus phellos*	10	Yes	FAC
5.			
6.			
7.			
	45	= Total Cover	
50% of total cover: 22.5	20% of total cover: 9		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Carpinus caroliniana*	15	Yes	FAC
2. *Acer rubrum*	10	Yes	FAC
3. *Carya ovata*	10	Yes	FACU
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. *Rubus apogaeus*	10	Yes	FAC
2. *Viola hirsutula*	10	Yes	FACU
3. *Carya ovata*	5	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25	= Total Cover	
50% of total cover: 12.5	20% of total cover: 5		

Woody Vine Stratum (Plot size: 30)			
1. *Vitis riparia*	20	Yes	FACW
2. *Toxicodendron 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:	8	(A)
Total Number of Dominant Species Across All Strata:	12	(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	20	x 2 =	40
FAC species	80	x 3 =	240
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals	135	(A)	420 (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-C18-07_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	10YR 3/3	100					Sandy Loam	
4 - 18	10YR 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:

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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** 4, Morton, Alamance … **Sampling Date:** 2018-June-04
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-29_UPL-1
Investigator(s): Don Lockwood, Jeff Vandeveer, Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Flood Plain **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1607379 **Long:** -79.4541862 **Datum:** WGS84
Soil Map Unit Name: Helena 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):	_____
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:

No positive indication of wetland hydrology was observed.

Sampling Point: W-C18-29_UPL-1

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

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Yes	FAC
2. *Quercus phellos*	20	Yes	FAC
3. *Acer saccharum*	15	Yes	FACU
4.			
5.			
6.			
7.			
	55	= Total Cover	
50% of total cover: 27.5	20% of total cover:	11	

Sapling/Shrub Stratum (Plot size: 15')			
1. *Carpinus caroliniana*	20	Yes	FAC
2. *Acer saccharum*	15	Yes	FACU
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.			
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. *Parthenocissus quinquefolia*	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:	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	60	x 3 =	180
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals	100	(A)	340 (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-C18-29_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 - 18	10YR 3/2	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:

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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Burlington, Alamance … **Sampling Date:** 2018-June-04
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-C18-29_PFO-1
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1606742 **Long:** -79.4544701 **Datum:** WGS84
Soil Map Unit Name: Chewacla 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): ____
Saturation Present? Yes ✓ No ____ Depth (inches): 8
(includes capillary fringe)

Wetland Hydrology Present? Yes ✓ No ____

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).

Sampling Point: W-C18-29_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus phellos*	30	Yes	FAC
2. *Ulmus americana*	30	Yes	FACW
3. *Carpinus caroliniana*	20	Yes	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. *Carpinus caroliniana*	15	Yes	FAC
2. *Ulmus rubra*	15	Yes	FAC
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. *Carex intumescens*	30	Yes	FACW
2. *Impatiens capensis*	15	Yes	FACW
3.			
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:	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	0	x 1 =	0
FACW species	75	x 2 =	150
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	155	(A)	390 (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-C18-29_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 - 9	10YR 4/2	90	10YR 4/6	10	C	M	Loam	
9 - 18	10YR 5/1	70	7.5YR 4/6	30	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:

Hydrology Photos

Vegetation Photos

Soil Photos

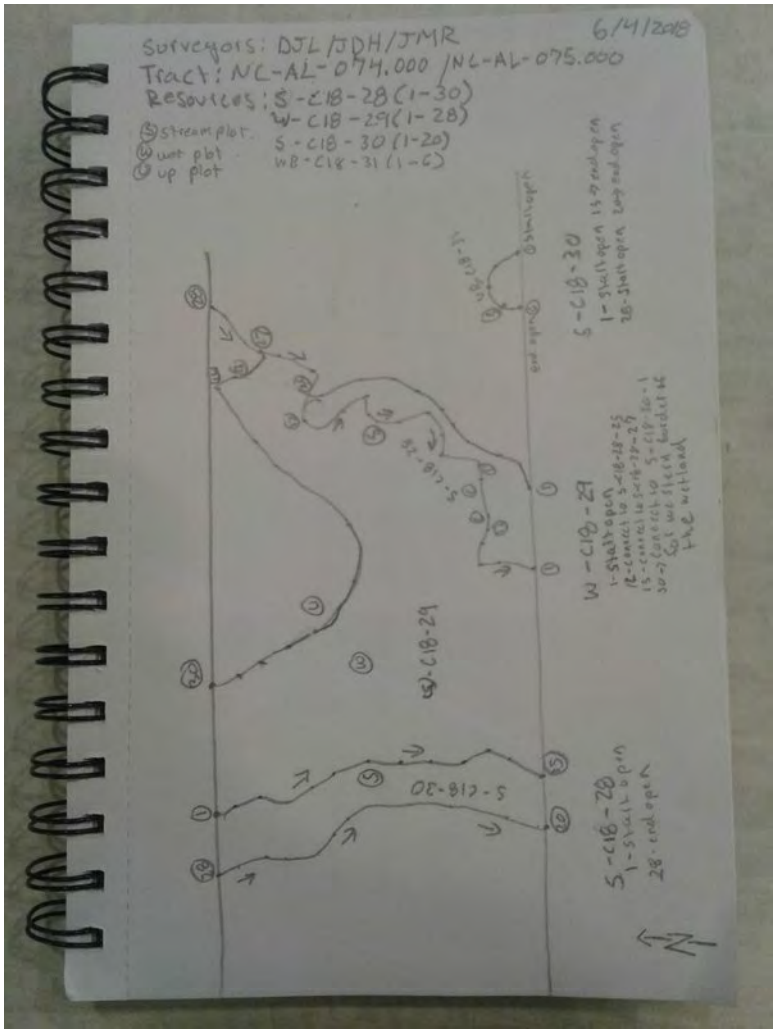
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-29
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-79_UPL-1
Investigator(s): Laura Giese, Joe Roy, Simon King **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Foot slope **Local relief (concave, convex, none):** Convex **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1563841 **Long:** -79.4393093 **Datum:** WGS84
Soil Map Unit Name: Cullen clay loam, 6-10 percent slopes, moderately eroded (CnC2) **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):	_____
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:

The criterion for wetland hydrology is not met. Water at 14" in borehole.

Sampling Point: W-A18-79_UPL-1

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

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ilex opaca*	10	Yes	FACU
2. *Acer rubrum*	10	Yes	FAC
3. *Ulmus rubra*	10	Yes	FAC
4. *Fraxinus pennsylvanica*	10	Yes	FACW
5.			
6.			
7.			
	40	= Total Cover	
50% of total cover: 20	20% of total cover: 8		

Sapling/Shrub Stratum (Plot size: 15')			
1. *Liquidambar styraciflua*	10	Yes	FAC
2. *Acer rubrum*	10	Yes	FAC
3. *Quercus alba*	10	Yes	FACU
4. *Juniperus virginiana*	10	Yes	FACU
5. *Quercus phellos*	5	No	FAC
6. *Nyssa sylvatica*	5	No	FAC
7.			
8.			
9.			
	50	= Total Cover	
50% of total cover: 25	20% of total cover: 10		

Herb Stratum (Plot size: 5')			
1. *Rubus idaeus*	20	Yes	FAC
2. *Lonicera japonica*	10	Yes	FACU
3.			
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: 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:	10	(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	10	x 2 =	20
FAC species	70	x 3 =	210
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals	120	(A)	390 (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). Note PI was not met.

SOIL

Sampling Point: W-A18-79_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	10YR 3/1	100					Loamy Sand	
10 - 16	10YR 4/2	80					Loamy Sand	
10 - 16	10YR 3/1	20						
16 - 22	2.5Y 6/1	80	7.5YR 4/6	20	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:

No positive indication of hydric soils was observed.

Photo of Sample Plot North

Photo of Sample Plot South

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Burlington, Alamance ... **Sampling Date:** 2018-May-29
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-79_PSS-1
Investigator(s): Laura Giese, Joe Roy, Simon King **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1563813 **Long:** -79.4392331 **Datum:** WGS84
Soil Map Unit Name: Cullen clay loam, 6-10 percent slopes, moderately eroded (CnC2) **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.

Sampling Point: W-A18-79_PSS-1

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

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')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ilex verticillata*	35	Yes	FACW
2. *Liriodendron tulipifera*	10	No	FACU
3. *Liquidambar styraciflua*	10	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: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Leersia oryzoides*	45	Yes	OBL
2. *Microstegium vimineum*	10	No	FAC
3. *Boehmeria cylindrica*	10	No	FACW
4. *Solidago canadensis*	5	No	FACU
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: 30')	Absolute % Cover	Dominant Species?	Indicator Status
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:	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	45	x 1 =	45
FACW species	45	x 2 =	90
FAC species	55	x 3 =	165
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals	160	(A)	360 (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.)

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

SOIL

Sampling Point: W-A18-79_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 - 8	10YR 4/2	90	10YR 5/8	10	C	M	Sandy Loam	
8 - 16	10YR 5/1	90	7.5YR 5/8	10	C	M	Sandy Clay Loam	
16 - 22	2.5Y 5/1	80	10YR 5/8	20	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:

A positive indication of hydric soil was observed.

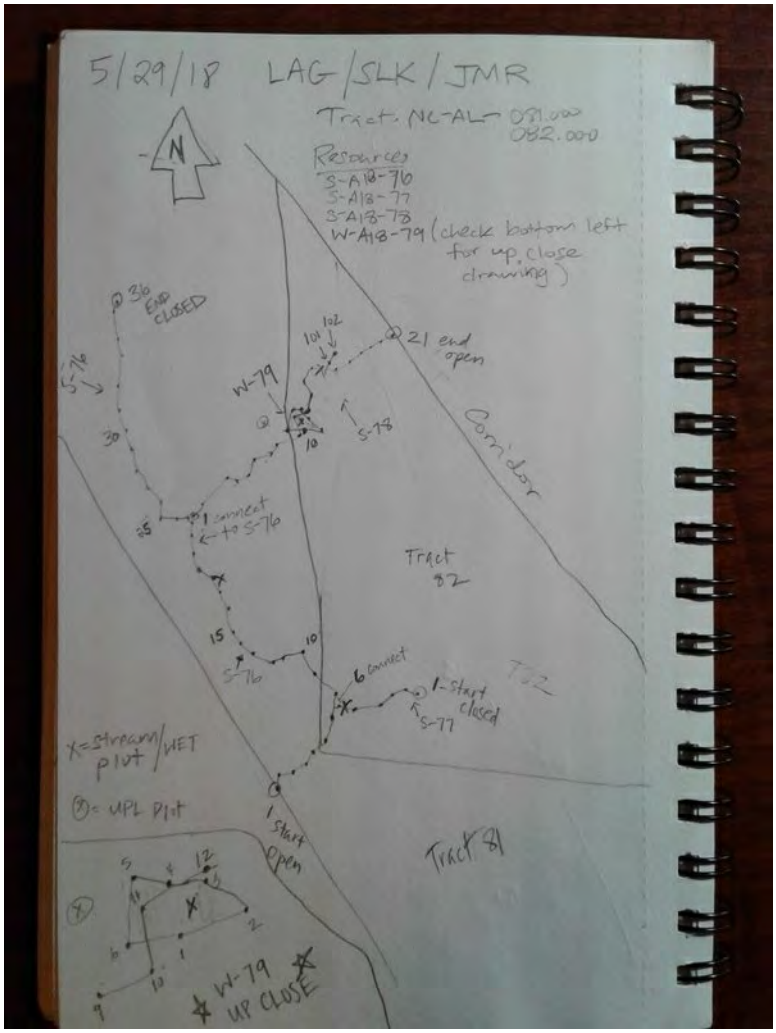
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-75_PEM-1
Investigator(s): Laura Giese, Jeff Vandeveer, Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1507577 **Long:** -79.4296123 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam, 6-10 percent slopes (HeC) **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. Base of pond and side of dirt road.

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):	13	**Wetland Hydrology Present?** Yes ✓ No ____
Saturation Present? (includes capillary fringe)	Yes ✓ No ____	Depth (inches):	13	

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

Remarks:

The criterion for wetland hydrology is met.

Sampling Point: W-A18-75_PEM-1

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

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. *Carex crinita*	35	Yes	OBL
2. *Onoclea sensibilis*	20	Yes	FACW
3. *Carex stipata*	15	No	OBL
4. *Juncus effusus*	10	No	FACW
5. *Eutrochium purpureum*	10	No	FAC
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:	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	50	x 1 =	50
FACW species	30	x 2 =	60
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	90	(A)	140 (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.)

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

SOIL

Sampling Point: W-A18-75_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 4/2	90	7.5YR 4/6	10	C	M	Silt Loam	
5 - 9	10Y 5/1	80	7.5YR 5/8	20	C	M	Silty Clay Loam	
9 - 13	10Y 5/1	80	7.5YR 5/8	20	C	M	Sandy Clay Loam	
13 - 15	2.5Y 5/1	100					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): 15

Hydric Soil Present? Yes ☑ No ☐

Remarks:

A positive indication of hydric soil was observed.

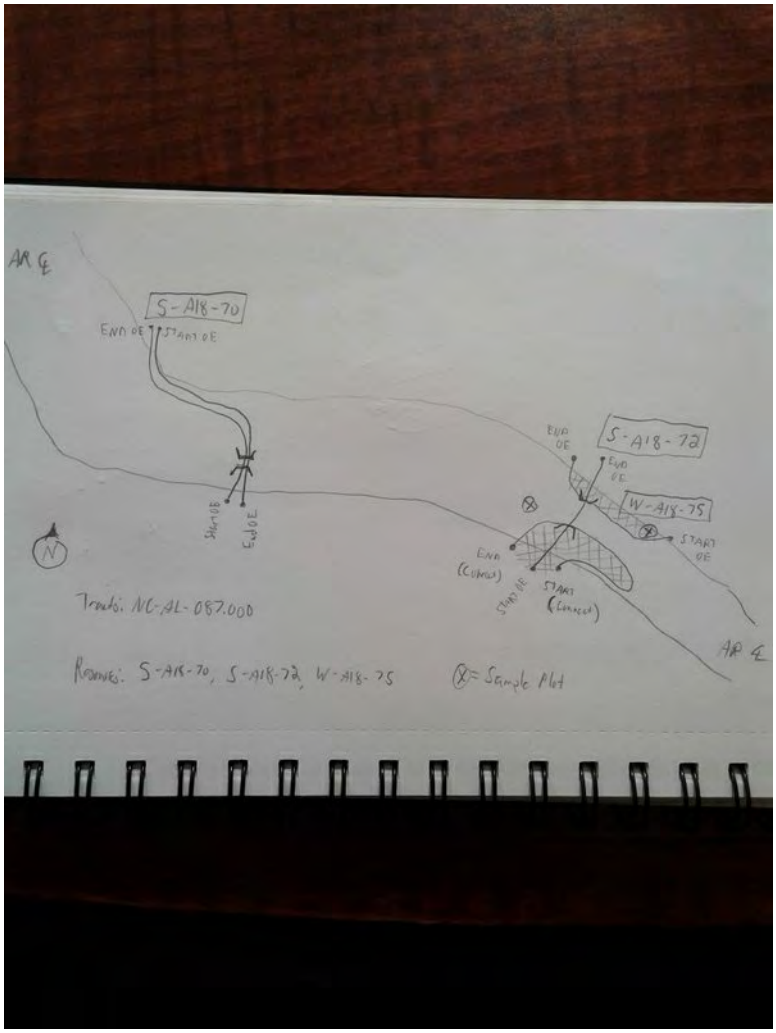
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-75_UPL-1
Investigator(s): Laura Giese, Jeff Vandeveer, Nate Renaudin **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:** 36.1507541 **Long:** -79.4296031 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam, 6-10 percent slopes (HeC) **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 hydrophytic plant community 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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-75_UPL-1

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

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. *Dactylis glomerata*	20	Yes	FACU
2. *Plantago lanceolata*	10	Yes	UPL
3. *Trifolium hybridum*	10	Yes	FACU
4. *Potentilla simplex*	10	Yes	FACU
5. *Lonicera japonica*	10	Yes	FACU
6. *Campsis radicans*	10	Yes	FAC
7.			
8.			
9.			
10.			
11.			
	70	= Total Cover	
50% of total cover: 35	20% of total cover: 14		

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:	6	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	16.7	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	50	x 4 =	200
UPL species	10	x 5 =	50
Column Totals	70	(A)	280 (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.)

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

SOIL

Sampling Point: W-A18-75_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 4/2	100					Silt Loam	
2 - 8	10YR 4/3	95	7.5YR 5/8	5	C	M	Sandy Loam	
8 - 15	2.5Y 5/2	70	2.5Y 6/1	15	C	M	Sandy Clay Loam	
8 - 15	7.5YR 5/8	15			C	M	Silty Clay Loam	
15 - 20	2.5YR 4/8	55					Clay	
15 - 20	2.5Y 6/1	45					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 West

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** 5, Faucette, Alamance… **Sampling Date:** 2018-May-29
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-73_PFO-1
Investigator(s): Laura Giese, Joe Roy, Simon King **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Channel **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1503492 **Long:** -79.4302949 **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):	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.

Sampling Point: W-A18-73_PFO-1

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

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. *Carex tribuloides*	30	Yes	FACW
2. *Microstegium vimineum*	5	No	FAC
3.			
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: 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:	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	30	x 2 =	60
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	35	(A)	75 (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.)

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). Trees are on edge of swale.

SOIL

Sampling Point: W-A18-73_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	90	7.5YR 4/6	10	C	M	Sandy Loam	
5 - 22	10YR 5/1	98	10YR 5/4	2	C	M	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:

A positive indication of hydric soil was observed. gravelly near bottom of profile.

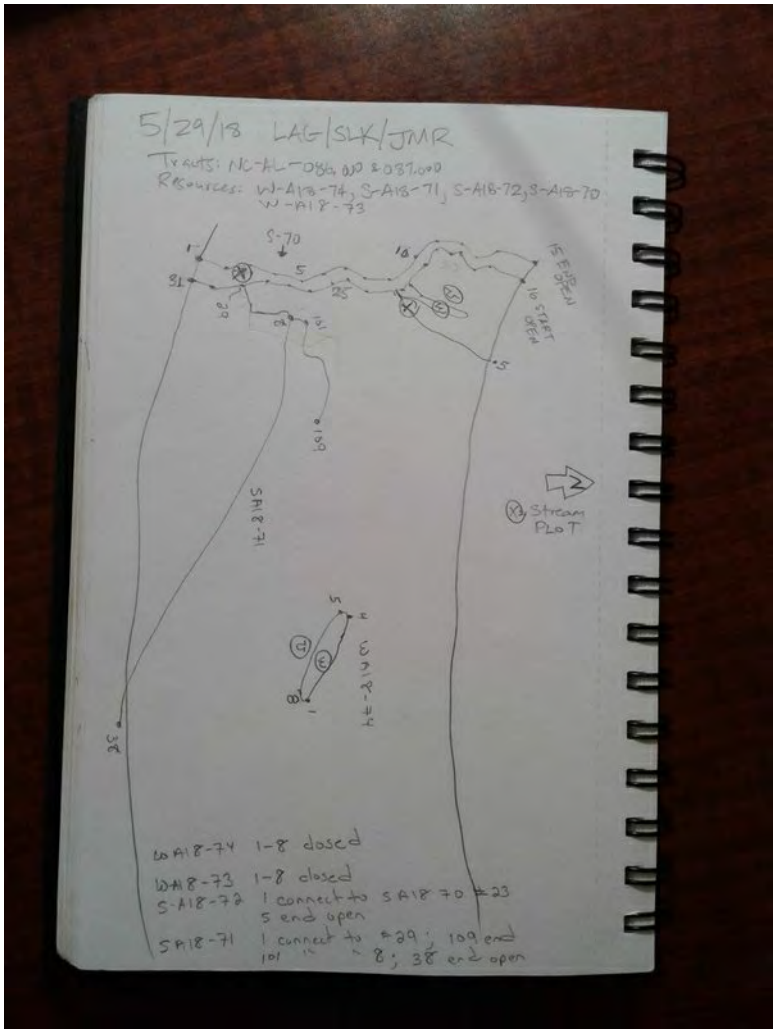
Photo of Sample Plot North

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:** 5, Faucette, Alamance… **Sampling Date:** 2018-May-29
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-73_UPL-1
Investigator(s): Laura Giese, Joe Roy, Simon King **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Terrace **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1503887 **Long:** -79.4302572 **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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-73_UPL-1

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

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liriodendron tulipifera*	35	Yes	FACU
2. *Ilex opaca*	20	Yes	FACU
3. *Acer rubrum*	10	No	FAC
4. *Cornus florida*	10	No	FACU
5.			
6.			
7.			
	75	= Total Cover	
50% of total cover: 37.5	20% of total cover:	15	

Sapling/Shrub Stratum (Plot size: 15')			
1. *Juniperus virginiana*	10	Yes	FACU
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. *Ligustrum sinense*	15	Yes	FACU
2. *Lonicera japonica*	15	Yes	FACU
3.			
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: 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:	5	(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	10	x 3 =	30
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column Totals	115	(A)	450 (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.)

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

SOIL

Sampling Point: W-A18-73_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 3/2	100					Silt Loam	
1 - 14	10YR 4/3	100					Silt Loam	
14 - 19	10YR 4/3	98	10YR 5/1	2	D	M	Sandy Loam	
19 - 24	7.5YR 3/1	95	7.5YR 4/6	5	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:

No positive indication of hydric soils was observed.

Photo of Sample Plot North

Photo of Sample Plot South

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Burlington, Alamance ... **Sampling Date:** 2018-May-29
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-74_PFO-1
Investigator(s): Laura Giese, Joe Roy, Simon King **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1499055 **Long:** -79.4292552 **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):	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.

Sampling Point: W-A18-74_PFO-1

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

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Sapling/Shrub Stratum (Plot size: 15')			
1. *Acer rubrum*	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. *Campsis radicans*	5	Yes	FAC
2. *Glyceria striata*	5	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

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	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	35	(A)	95 (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).

SOIL

Sampling Point: W-A18-74_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 3/2	100					Silt Loam	
1 - 6	10YR 5/1	90	7.5YR 5/8	10	C	M	Silty Clay Loam	
6 - 16	2.5Y 6/4	70	10YR 5/8	20	C	M	Loamy Sand	
6 - 16			2.5Y 5/1	10	D	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:

A positive indication of hydric soil was observed.

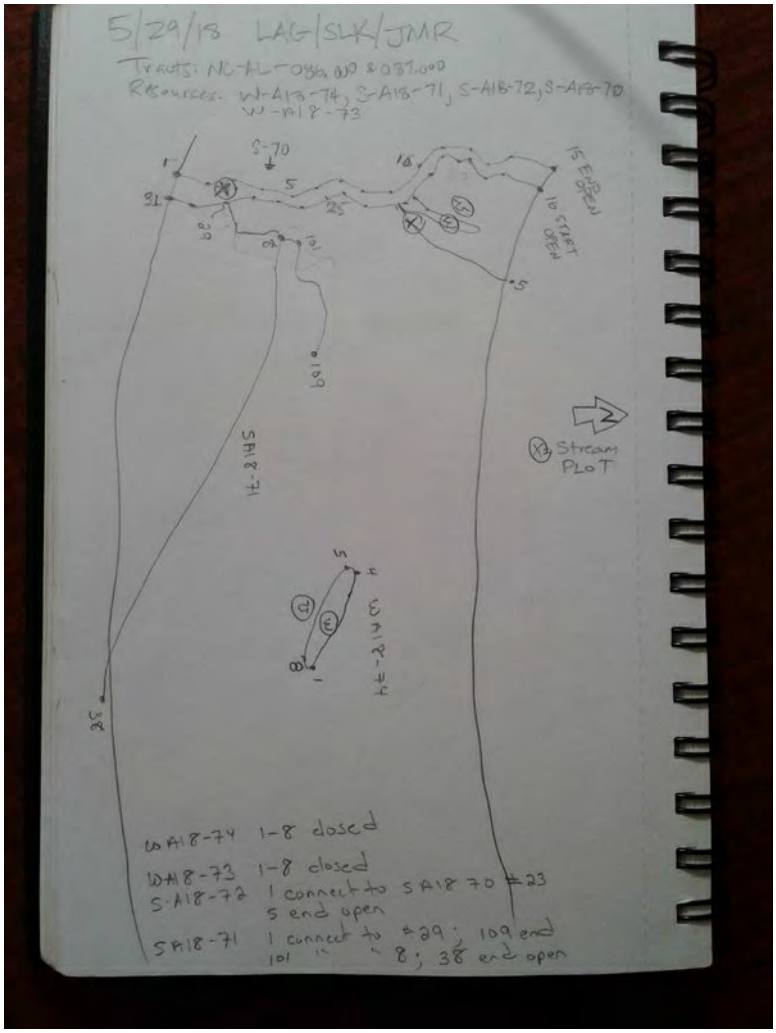
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-74_UPL-1
Investigator(s): Laura Giese, Jeff Vandeveer, Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Convex **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.150017 **Long:** -79.4293945 **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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-74_UPL-1

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

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	20	Yes	FACW
2. *Quercus phellos*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

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. *Rosa multiflora*	15	Yes	FACU
2. *Juniperus virginiana*	10	Yes	FACU
3. *Ligustrum sinense*	10	Yes	FACU
4. *Lonicera japonica*	10	Yes	FACU
5. *Rubus idaeus*	5	No	FAC
6. *Glyceria striata*	5	No	OBL
7.			
8.			
9.			
10.			
11.			
	55	= Total Cover	

50% of total cover: 27.5 20% of total cover: 11

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	5	x 1 =	5
FACW species	20	x 2 =	40
FAC species	15	x 3 =	45
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column Totals	85	(A)	270 (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.)

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

SOIL

Sampling Point: W-A18-74_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					Silt Loam	
3 - 15	2.5Y 5/3	93	10YR 5/8	5	C	M	Loamy Sand	
3 - 15			2.5Y 6/1	2				

[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 South

Photo of Sample Plot West

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Burlington, Alamance ... **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-80_PEM-1
Investigator(s): Laura Giese, Jeff Vandeveer, Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1495604 **Long:** -79.4268542 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam, 6-10 percent slopes (HeC) **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. Circumstances are not normal due to mowing of vegetation. appears cultivated for hay.

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
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.

Sampling Point: W-A18-80_PEM-1

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

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. *Carex crinita*	30	Yes	OBL
2. *Trifolium repens*	30	Yes	FACU
3. *Juncus effusus*	20	Yes	FACW
4. *Carex scoparia*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85	= Total Cover	
50% of total cover: 42.5	20% of total cover: 17		

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	30	x 1 =	30
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals	85	(A)	200 (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-A18-80_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 - 2	10YR 3/2	100					Silt Loam	
2 - 14	2.5Y 6/1	95	7.5YR 5/8	5	C	M	Loamy Sand	
14 - 20	2.5Y 6/1	95	10YR 5/6	5	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:

A positive indication of hydric soil was observed.

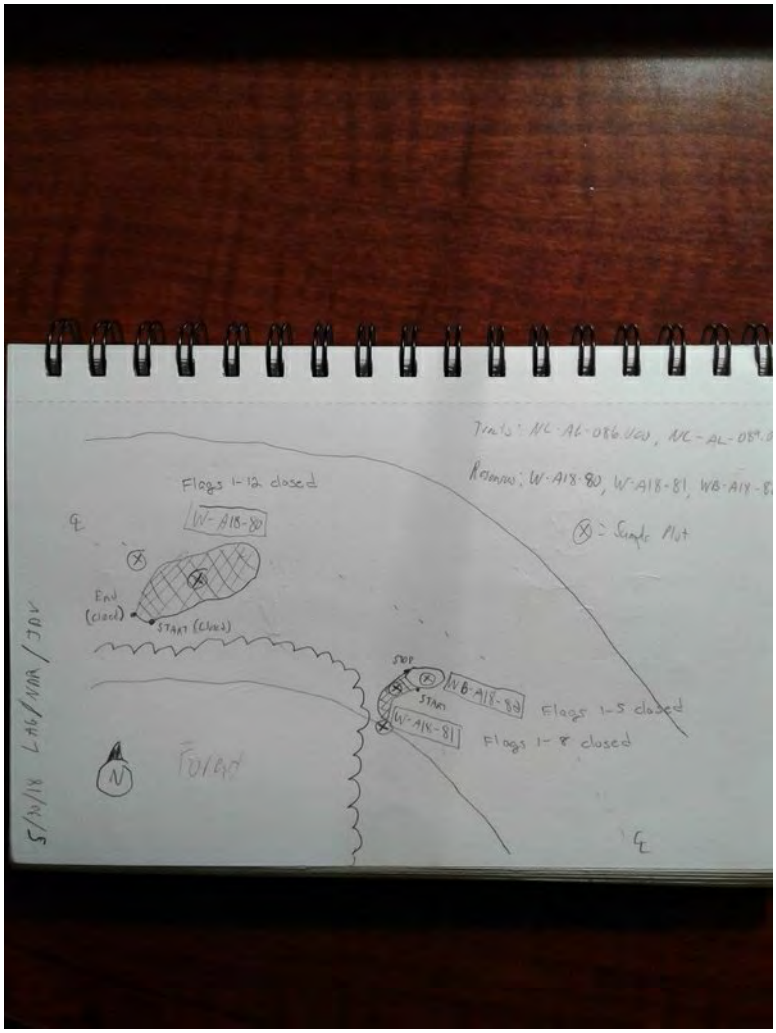
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-80_UPL-1
Investigator(s): Laura Giese, Jeff Vandeveer, Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Convex **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1495948 **Long:** -79.4271155 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam, 6-10 percent slopes (HeC) **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):	_____
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:

The criterion for wetland hydrology is not met. Water at 9" in borehole from surface due to heavy rains..

Sampling Point: W-A18-80_UPL-1

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

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. *Festuca rubra*	45	Yes	FACU
2. *Apocynum cannabinum*	25	Yes	FACU
3. *Campsis radicans*	10	No	FAC
4.			
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: 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	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals	80	(A)	310 (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.)

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

SOIL

Sampling Point: W-A18-80_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	80	10YR 6/3	18	C	M	Sandy Loam	
0 - 3			10YR 5/8	2	C	M		
3 - 19	2.5Y 6/3	95	10YR 4/6	5	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:

No positive indication of hydric soils was observed.

Photo of Sample Plot North

Photo of Sample Plot West

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Burlington, Alamance ... **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-81_PEM-1
Investigator(s): Laura Giese, Jeff Vandeveer, Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1493418 **Long:** -79.4263698 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam, 2-6 percent slopes (HeB) **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):	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.

Sampling Point: W-A18-81_PEM-1

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

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. *Carex stipata*	20	Yes	OBL
2. *Juncus effusus*	20	Yes	FACW
3. *Holcus lanatus*	20	Yes	FAC
4. *Carex lurida*	10	No	OBL
5. *Leersia virginica*	10	No	FACW
6. *Acer rubrum*	10	No	FAC
7. *Lonicera japonica*	10	No	FACU
8.			
9.			
10.			
11.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

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	30	x 2 =	60
FAC species	30	x 3 =	90
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals	100	(A)	220 (B)

Prevalence Index = B/A = 2.2

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-A18-81_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 3/2	100					Silt Loam	
1 - 6	2.5Y 5/1	95	10YR 5/8	5	C	M	Loamy Sand	
6 - 18	2.5Y 6/1	70	10YR 5/8	30	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.

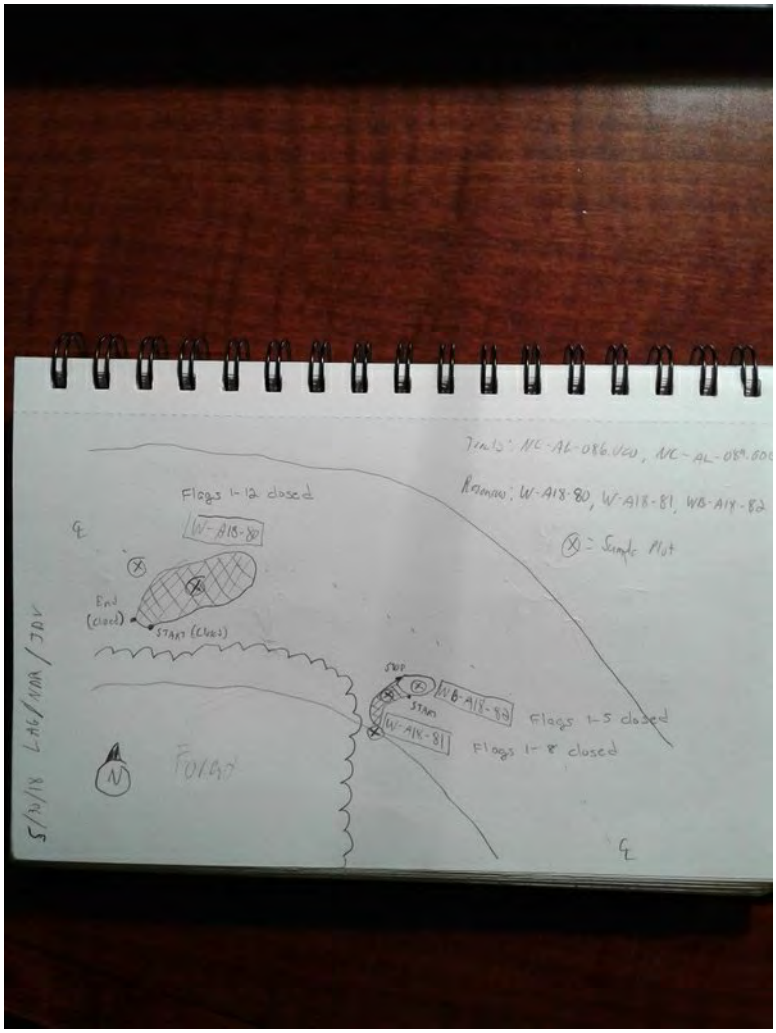
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-30
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-81_UPL-1
Investigator(s): Laura Giese, Jeff Vandeveer, Nate Renaudin **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Back slope **Local relief (concave, convex, none):** Concave **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1491834 **Long:** -79.4264499 **Datum:** WGS84
Soil Map Unit Name: Helena Sandy loam, 2-6 percent slopes (HeB) **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 hydrophytic plant community 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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-81_UPL-1

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

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. *Festuca rubra*	25	Yes	FACU
2. *Lonicera japonica*	25	Yes	FACU
3. *Holcus lanatus*	15	Yes	FAC
4. *Juncus effusus*	5	No	FACW
5. *Fraxinus pennsylvanica*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	75	= Total Cover	
50% of total cover: 37.5	20% of total cover: 15		

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:	3	(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	10	x 2 =	20
FAC species	15	x 3 =	45
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals	75	(A)	265 (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-A18-81_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	2.5Y 5/2	95	10YR 5/8	5	C	M	Loamy Sand	
3 - 24	2.5Y 5/3	85	7.5YR 4/6	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:

The criterion for hydric soil is met.

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:** Burlington, Alamance ... **Sampling Date:** 2018-June-04
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-32_PEM-1
Investigator(s): Don Lockwood, Joe Roy, Jeremy Hummel **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1481952 **Long:** -79.4240012 **Datum:** WGS84
Soil Map Unit Name: Helena 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):	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:

A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-B18-32_PEM-1

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

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. *Cynodon dactylon*	30	Yes	FACU
2. *Juncus effusus*	50	Percent cover cannot be greater than a previous species	FACW
3. *Carex lurida*	20	No	OBL
4. *Ludwigia alternifolia*	10	No	FACW
5. *Carex vulpinoidea*	10	No	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. *Toxicodendron radicans*	5	Yes	FAC
2. *Campsis radicans*	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:	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	30	x 1 =	30
FACW species	60	x 2 =	120
FAC species	10	x 3 =	30
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals	130	(A)	300 (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-B18-32_PEM-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0 - 18	10YR 5/2	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:

Hydrology Photos

Vegetation Photos

Soil Photos

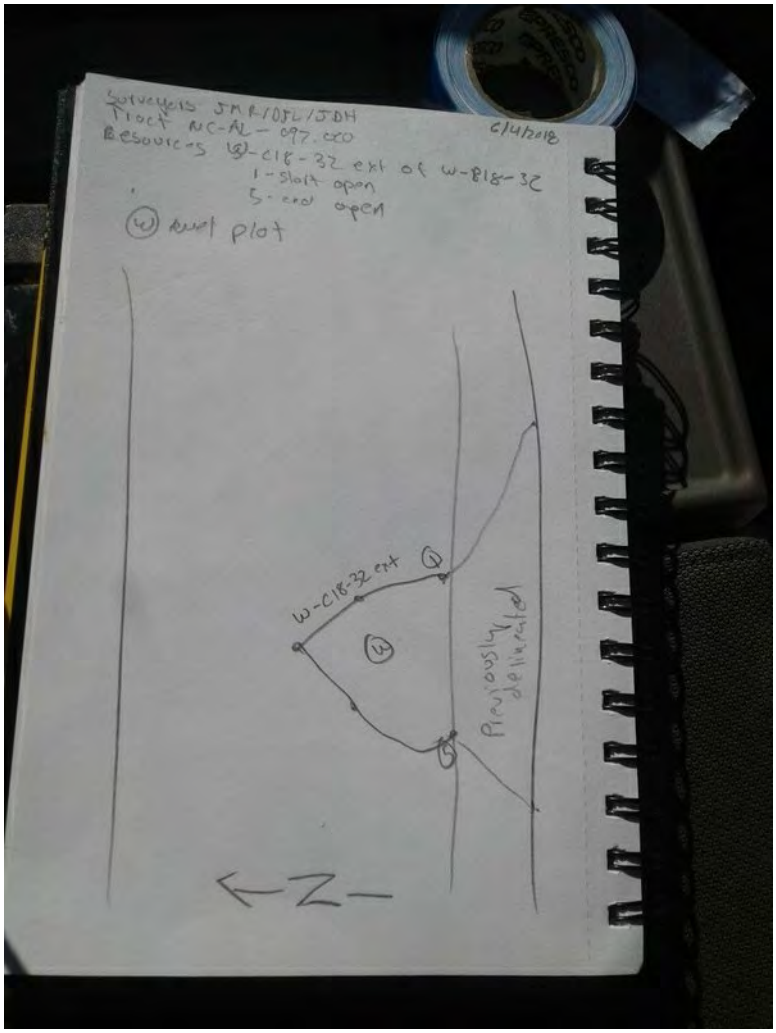
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-18

Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-32_PFO-1

Investigator(s): James Bolduc, Tony Tredway **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:** 36.1479646 **Long:** -79.4233212 **Datum:** WGS84

Soil Map Unit Name: **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.

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):	3	**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-B18-32_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	30	Yes	FACW
2. *Liquidambar styraciflua*	30	Yes	FAC
3. *Quercus alba*	15	No	FACU
4. *Carya glabra*	5	No	FACU
5. *Ilex opaca*	5	No	FACU
6.			
7.			
	85	= Total Cover	
50% of total cover: 42.5	20% of total cover: 17		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Liquidambar styraciflua*	30	Yes	FAC
2. *Quercus phellos*	10	No	FAC
3. *Ulmus americana*	10	No	FACW
4. *Carya glabra*	5	No	FACU
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. *Microstegium vimineum*	90	Yes	FAC
2. *Rubus hispidus*	10	No	FACW
3. *Polystichum acrostichoides*	2	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	102	= Total Cover	
50% of total cover: 51	20% of total cover: 20.4		

Woody Vine Stratum (Plot size: 30)			
1. *Toxicodendron radicans*	10	Yes	FAC
2. *Smilax hispida*	5	Yes	FAC
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:	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	50	x 2 =	100
FAC species	175	x 3 =	525
FACU species	32	x 4 =	128
UPL species	0	x 5 =	0
Column Totals	257	(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.)

SOIL

Sampling Point: W-B18-32_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 3/2	98	7.5YR 5/6	2	C	M	Fine Sandy Loam	
6 - 12	2.5Y 6/2	90	7.5YR 5/6	10	C	M	Sandy Loam	
12 - 18	2.5Y 6/2	80	7.5YR 5/6	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: None

Depth (inches):

Hydric Soil Present? Yes ☑ No ☐

Remarks:

Hydrology Photos

Vegetation Photos

Soil Photos

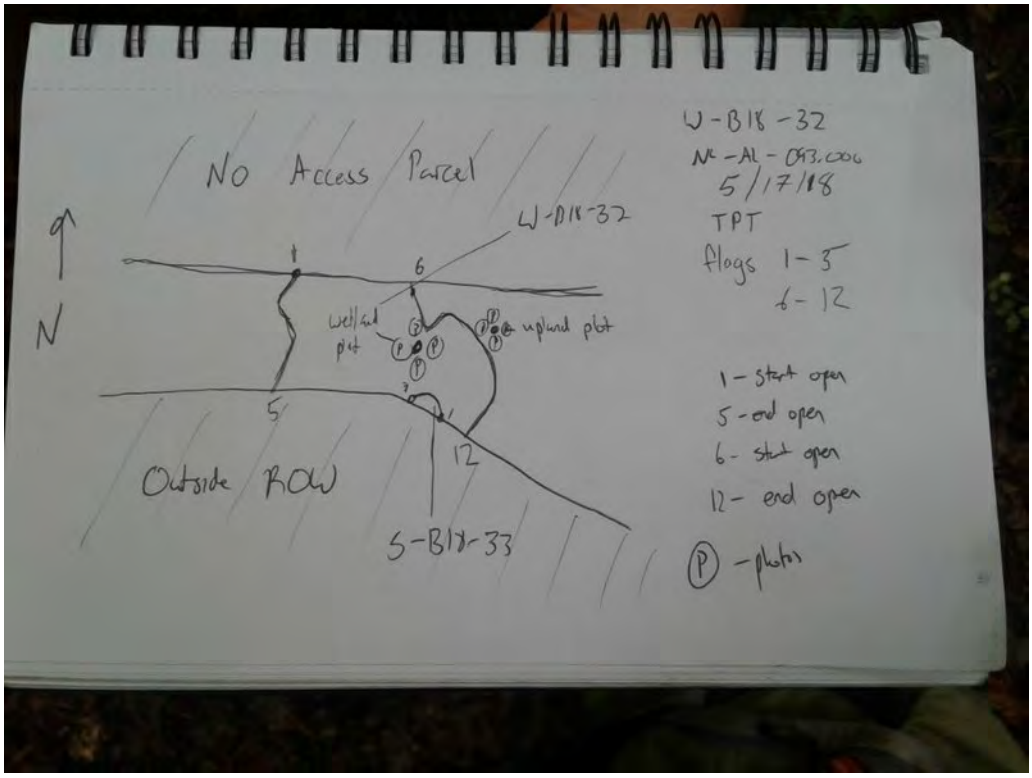
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-18
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-32_UPL-1
Investigator(s): James Bolduc, Tony Tredway **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1482137 **Long:** -79.4235195 **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 UPL. Area is upland, not all three wetland parameters are present. dense soil layer within 15 inches.

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):	

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 not met.

Sampling Point: W-B18-32_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus alba*	40	Yes	FACU
2. *Liriodendron tulipifera*	10	Yes	FACU
3. *Carya glabra*	20	Percent cover cannot be greater than a previous species	FACU
4. *Ulmus americana*	10	No	FACW
5. *Acer rubrum*	10	No	FAC
6. *Acer saccharum*	10	No	FACU
7.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover:		20

Sapling/Shrub Stratum (Plot size: 15)			
1. *Ulmus americana*	20	Yes	FACW
2. *Ilex opaca*	10	Yes	FACU
3. *Quercus alba*	10	Yes	FACU
4. *Acer rubrum*	5	No	FAC
5. *Carya glabra*	5	No	FACU
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*	50	Yes	FACU
2. *Fragaria vesca*	20	Yes	FACU
3. *Rubus hispidus*	10	No	FACW
4. *Parthenocissus quinquefolia*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85	= Total Cover	
50% of total cover: 42.5	20% of total cover:		17

Woody Vine Stratum (Plot size: 30)			
1. *Smilax rotundifolia*	5	Yes	FAC
2. *Toxicodendron radicans*	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:	3	(A)
Total Number of Dominant Species Across All Strata:	9	(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	40	x 2 =	80
FAC species	25	x 3 =	75
FACU species	180	x 4 =	720
UPL species	0	x 5 =	0
Column Totals	245	(A)	875 (B)

Prevalence Index = B/A = 3.6

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-B18-32_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 3/2	100					Sandy Loam	
6 - 9	10YR 5/3	100					Sandy Loam	
9 - 16	2.5Y 6/3	100					Loamy Sand	
16 - 20	2.5Y 6/3	80	7.5YR 5/6	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: Dense silty clay loam
Depth (inches): 16

Hydric Soil Present? Yes ☐ No ☑

Remarks:

Vegetation Photos

Soil Photos

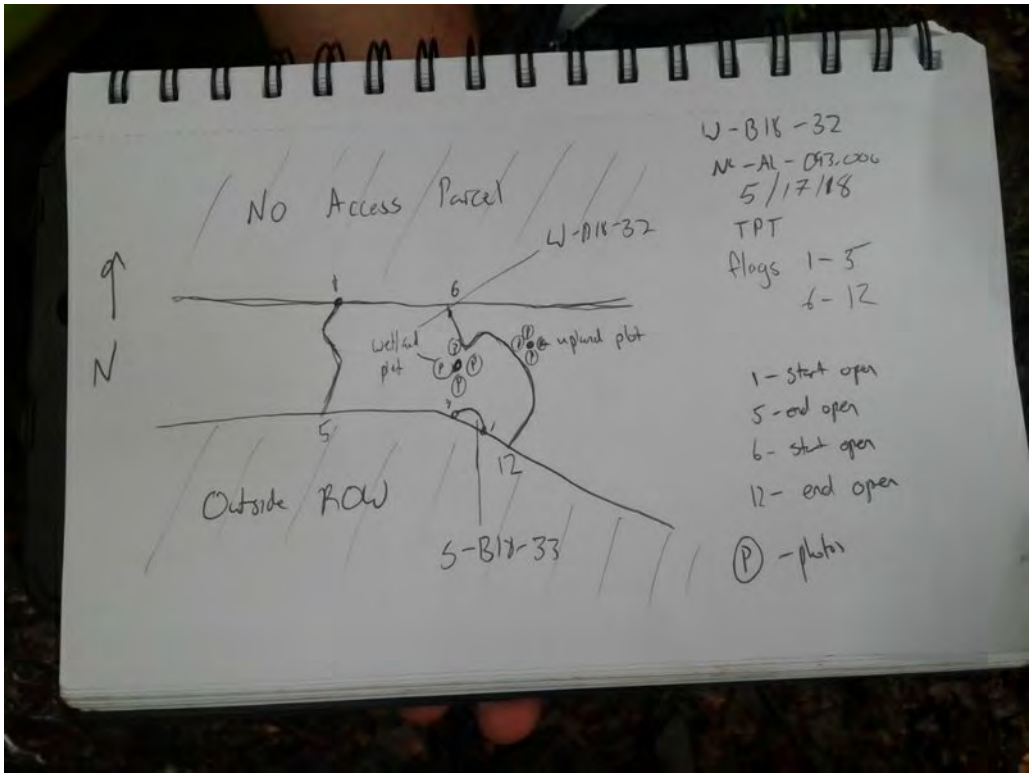
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-18
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-31_PFO-1
Investigator(s): James Bolduc, Tony Tredway **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1476194 **Long:** -79.4207497 **Datum:** WGS84
Soil Map Unit Name: **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.

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
Saturation Present? Yes ✓ No ____ Depth (inches): 5
(includes capillary fringe)

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

Sampling Point: W-B18-31_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	40	Yes	FAC
2. *Acer rubrum*	20	Yes	FAC
3. *Ulmus americana*	10	No	FACW
4. *Liriodendron tulipifera*	10	No	FACU
5. *Ilex opaca*	5	No	FACU
6.			
7.			
	85	= Total Cover	
50% of total cover: 42.5	20% of total cover: 17		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Ulmus americana*	20	Yes	FACW
2. *Ilex opaca*	10	Yes	FACU
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*	80	Yes	FAC
2. *Smilax rotundifolia*	10	No	FAC
3.			
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. *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:	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	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	170	x 3 =	510
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals	225	(A)	670 (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-B18-31_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 3/1	100					Silt Loam	
3 - 10	10YR 6/2	95	7.5YR 5/6	5	C	M	Sandy Loam	
10 - 20	2.5Y 6/1	80	7.5YR 5/6	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:

Vegetation Photos

Soil Photos

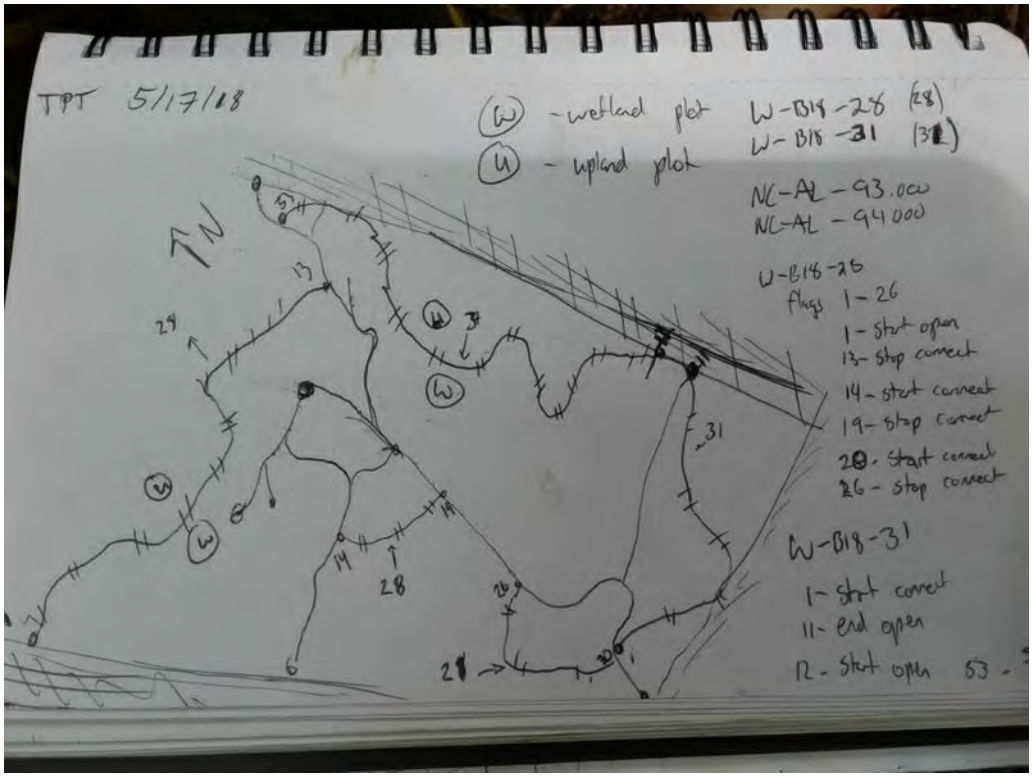
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-18
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-31_UPL-1
Investigator(s): James Bolduc, Tony Tredway **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.147664 **Long:** -79.4206475 **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 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):	16
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:

Sampling Point: W-B18-31_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus alba*	40	Yes	FACU
2. *Carya glabra*	30	Yes	FACU
3. *Acer rubrum*	20	No	FAC
4. *Ilex opaca*	15	No	FACU
5.			
6.			
7.			
	105	= Total Cover	
50% of total cover: 52.5	20% of total cover: 21		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Quercus alba*	30	Yes	FACU
2. *Carya glabra*	30	Yes	FACU
3. *Ilex opaca*	10	No	FACU
4. *Prunus serotina*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
	80	= Total Cover	
50% of total cover: 40	20% of total cover: 16		

Herb Stratum (Plot size: 5)			
1. *Parthenocissus quinquefolia*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	
50% of total cover: 2.5	20% of total cover: 1		

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:	1	(A)
Total Number of Dominant Species Across All Strata:	6	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	16.7	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	170	x 4 =	680
UPL species	0	x 5 =	0
Column Totals	210	(A)	800 (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-B18-31_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					Sandy Loam	
3 - 6	10YR 4/3	100					Sandy Loam	
6 - 15	2.5Y 6/3	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:

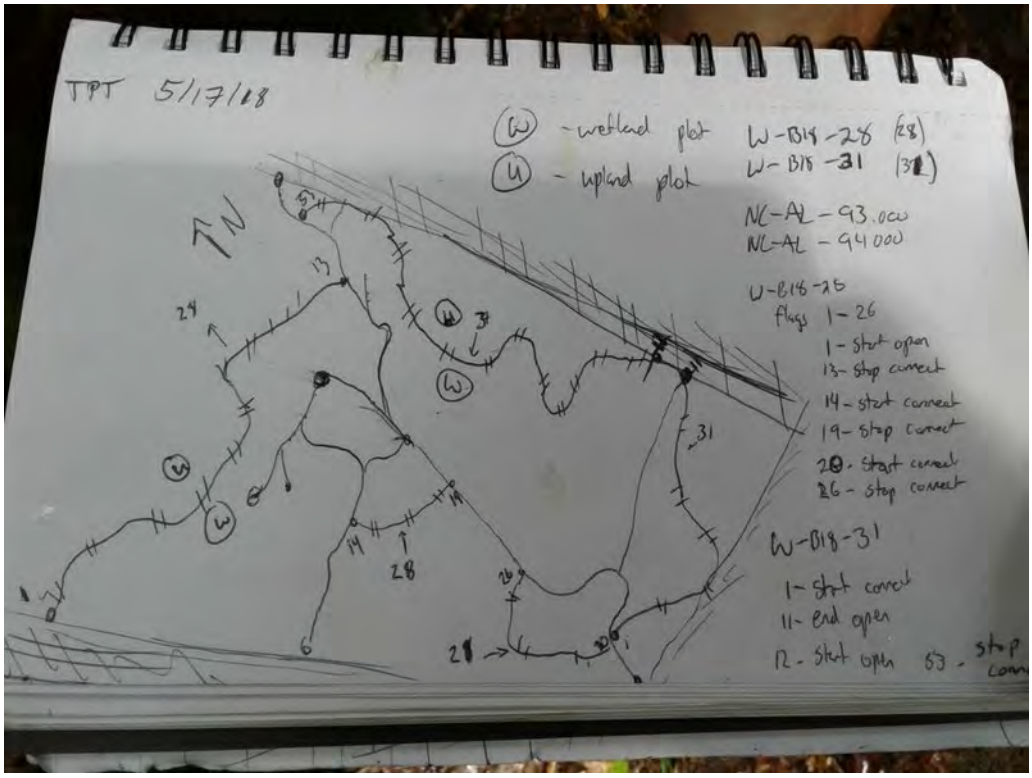
Vegetation Photos

Soil Photos

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot Sketch



WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Burlington, Alamance ... **Sampling Date:** 2018-May-18
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-28_PFO-1
Investigator(s): James Bolduc, Tony Tredway, Jeremy Hummel **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.147419 **Long:** -79.4212923 **Datum:** WGS84
Soil Map Unit Name: **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):	1
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:

Sampling Point: W-B18-28_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	20	Yes	FAC
2. *Betula nigra*	20	Yes	FACW
3. *Liquidambar styraciflua*	10	No	FAC
4. *Liriodendron tulipifera*	10	No	FACU
5. *Ulmus americana*	5	No	FACW
6.			
7.			
	65	= Total Cover	
50% of total cover: 32.5	20% of total cover: 13		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Betula nigra*	30	Yes	FACW
2. *Liquidambar styraciflua*	10	No	FAC
3. *Ilex opaca*	10	No	FACU
4. *Ulmus americana*	5	No	FACW
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. *Microstegium vimineum*	5	Yes	FAC
2. *Arisaema triphyllum*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10	= Total Cover	
50% of total cover: 5	20% of total cover: 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:	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	65	x 2 =	130
FAC species	55	x 3 =	165
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals	140	(A)	375 (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-B18-28_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 3/1	100					Fine Sandy Loam	
4 - 10	10YR 5/1	95	7.5YR 5/6	5	C	M	Sandy Loam	
10 - 18	10YR 6/1	70	7.5YR 5/6	30	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:

Vegetation Photos

Soil Photos

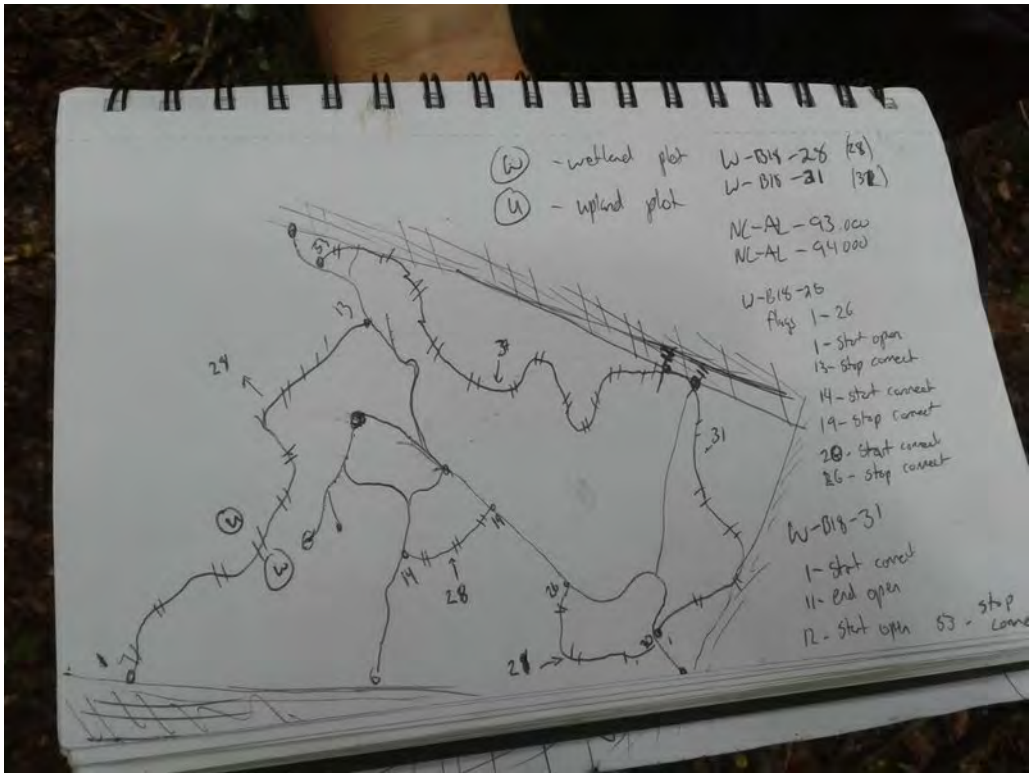
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-18
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-28_UPL-1
Investigator(s): James Bolduc, Tony Tredway **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1473394 **Long:** -79.421267 **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. Water riding on silty clay loan layer.

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:

Sampling Point: W-B18-28_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus phellos*	30	Yes	FAC
2. *Ilex opaca*	30	Yes	FACU
3. *Liriodendron tulipifera*	10	No	FACU
4. *Quercus alba*	10	No	FACU
5. *Acer rubrum*	5	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. *Ilex opaca*	30	Yes	FACU
2. *Carya glabra*	20	Yes	FACU
3. *Acer saccharum*	20	Yes	FACU
4. *Carpinus caroliniana*	5	No	FAC
5. *Acer rubrum*	5	No	FAC
6. *Liriodendron tulipifera*	5	No	FACU
7. *Quercus alba*	5	No	FACU
8.			
9.			
	90	= Total Cover	
50% of total cover: 45	20% of total cover: 18		

Herb Stratum (Plot size: 5)			
1. *Rubus hispidus*	5	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	
50% of total cover: 2.5	20% of total cover: 1		

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:	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	5	x 2 =	10
FAC species	65	x 3 =	195
FACU species	130	x 4 =	520
UPL species	0	x 5 =	0
Column Totals	200	(A)	725 (B)

Prevalence Index = B/A = 3.6

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-B18-28_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 - 4	10YR 3/2	100					Fine Loamy Sand	
4 - 10	2.5Y 6/3	95	7.5YR 5/6	5	C	M	Sandy Loam	
10 - 15	2.5Y 6/1	70	7.5YR 5/6	30	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: Compacted sultry clay loam
Depth (inches): 10

Hydric Soil Present? Yes ☐ No ☑

Remarks:

No positive indication of hydric soils was observed.

Hydrology Photos

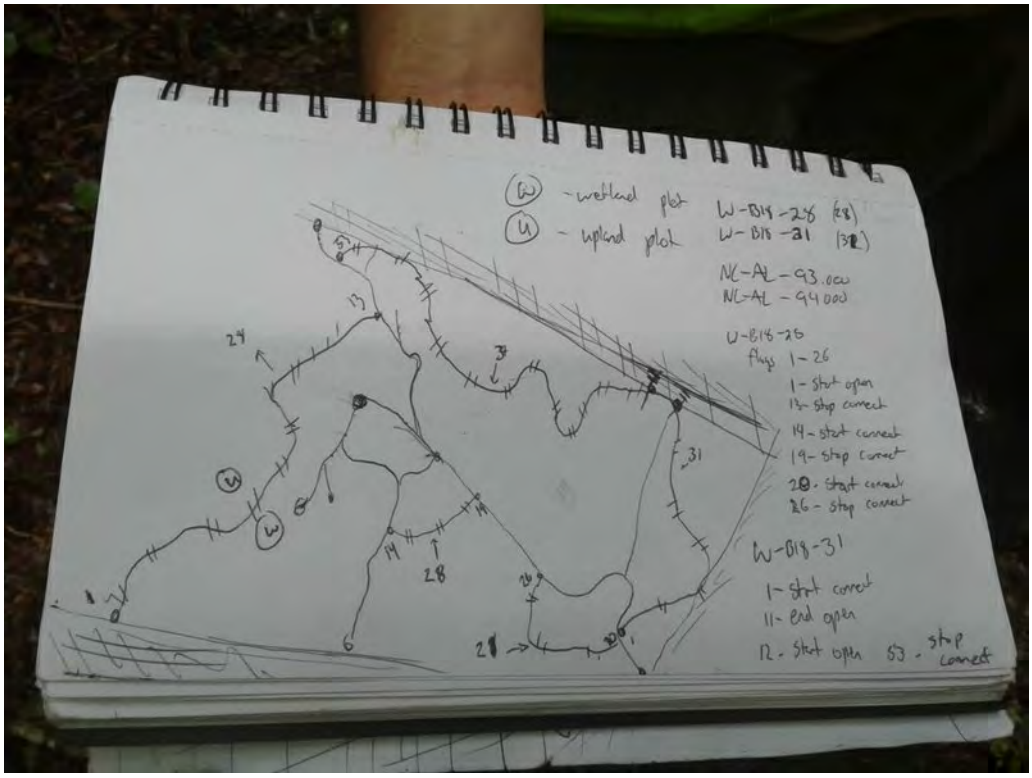
Vegetation Photos

Soil Photos

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot Sketch



WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** 5, Faucette, Alamance… **Sampling Date:** 2018-May-14
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B17-17_PFO-1
Investigator(s): James Bolduc, Tony Tredway, Karla Fortier **Section, Township, Range:** Al
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:** 36.1467998 **Long:** -79.4114211 **Datum:** WGS84
Soil Map Unit Name: _____ **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):	
Saturation Present? (includes capillary fringe)	Yes ✓ No ____	Depth (inches):	6

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.

Sampling Point: W-B17-17_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	30	Yes	FAC
2. *Liquidambar styraciflua*	50	Percent cover cannot be greater than a previous species	FAC
3. *Carpinus caroliniana*	10	No	FAC
4. *Betula nigra*	10	No	FACW
5.			
6.			
7.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover:		20

Sapling/Shrub Stratum (Plot size: 15')			
1. *Acer rubrum*	30	Yes	FAC
2. *Carpinus caroliniana*	30	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	60	= Total Cover	
50% of total cover: 30	20% of total cover:		12

Herb Stratum (Plot size: 5')			
1. *Phalaris arundinacea*	45	Yes	FACW
2. *Viburnum dentatum*	10	No	FAC
3. *Lonicera japonica*	10	No	FACU
4. *Smilax rotundifolia*	5	No	FAC
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: 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	0	x 1 =	0
FACW species	55	x 2 =	110
FAC species	165	x 3 =	495
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals	230	(A)	645 (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).

SOIL

Sampling Point: W-B17-17_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 3/2	98	7.5YR 4/6	2	C	M	Silt Loam	
6 - 15	10YR 6/1	70	7.5YR 4/6	30	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:

Hydrology Photos

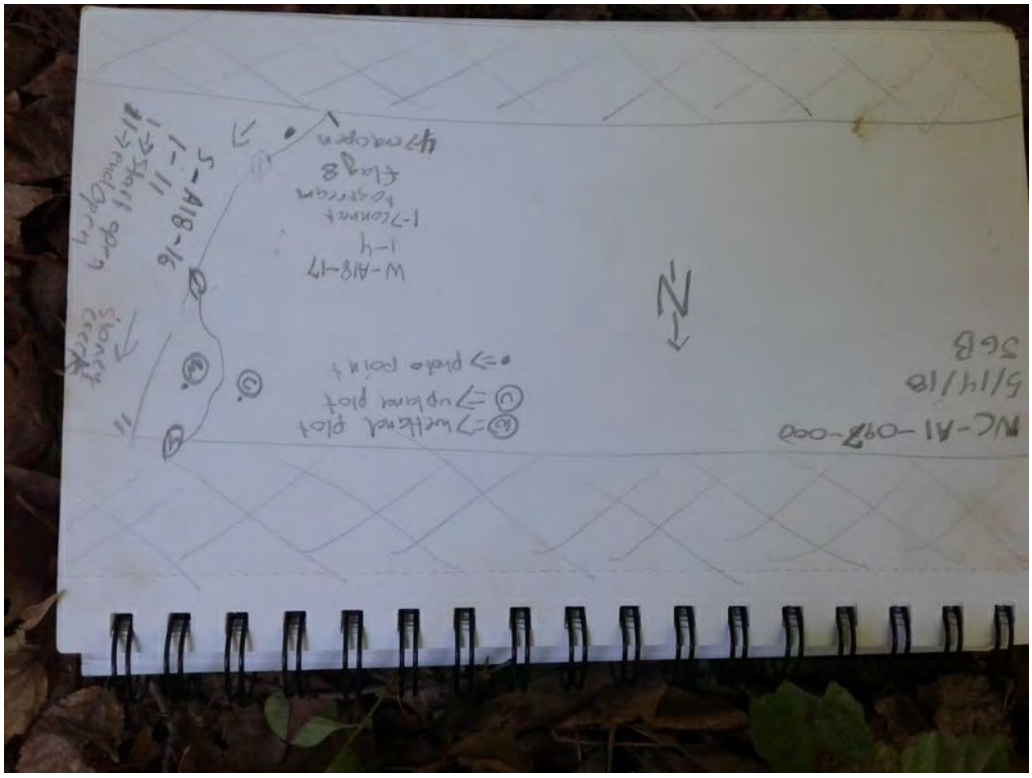
Photo of Sample Plot North

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:** 5, Faucette, Alamance… **Sampling Date:** 2018-May-14
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-17_UPL-1
Investigator(s): Laura Giese, Tony Tredway, Karla Fortier **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 5 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1467271 **Long:** -79.4115103 **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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-B18-17_UPL-1

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

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')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer platanoides*	20	Yes	UPL
2. *Carya glabra*	15	Yes	FACU
3. *Prunus virginiana*	10	Yes	FACU
4. *Ilex opaca*		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')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Viburnum acerifolium*	10	Yes	UPL
2. *Lonicera japonica*	10	Yes	FACU
3. *Acer saccharum*	5	No	FACU
4. *Euonymus americanus*	5	No	FAC
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: 30')	Absolute % Cover	Dominant Species?	Indicator Status
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:	1	(A)
Total Number of Dominant Species Across All Strata:	6	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	16.7	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species		x 4 =	
UPL species	30	x 5 =	150
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.)

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

SOIL

Sampling Point: W-B18-17_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 - 4	10YR 3/2	100					Fine Sandy Clay Loam	
4 - 16	10YR 4/3	100					Fine Sandy Loam	
16 - 20	10YR 4/3	70					Fine Sandy Loam	
16 - 20	10YR 5/8	30					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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** 5, Faucette, Alamance… **Sampling Date:** 2018-May-15
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-19_PSS-1
Investigator(s): James Bolduc, Tony Tredway, Jeremy Hummel **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Swamp **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1465254 **Long:** -79.4073648 **Datum:** WGS84
Soil Map Unit Name: **NWI classification:** PSS
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): 0
Water Table Present? Yes ✓ No ____ Depth (inches): 0
Saturation Present? Yes ✓ No ____ Depth (inches): 0
(includes capillary fringe)

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.

Sampling Point: W-B18-19_PSS-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	30	Yes	FAC
2. *Juglans nigra*	10	No	FACU
3. *Carya glabra*	10	No	FACU
4. *Liriodendron tulipifera*	5	No	FACU
5.			
6.			
7.			
	55	= Total Cover	
50% of total cover: 27.5	20% of total cover:		11

Sapling/Shrub Stratum (Plot size: 15')			
1. *Lindera benzoin*	40	Yes	FAC
2. *Sambucus nigra*	10	No	FAC
3. *Salix nigra*	10	No	OBL
4. *Viburnum dentatum*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
	70	= Total Cover	
50% of total cover: 35	20% of total cover:		14

Herb Stratum (Plot size: 5')			
1. *Arisaema triphyllum*	40	Yes	FACW
2. *Carex vulpinoidea*	80	Percent cover cannot be greater than a previous species	OBL
3. *Boehmeria cylindrica*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	125	= Total Cover	
50% of total cover: 62.5	20% of total cover:		25

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:	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	90	x 1 =	90
FACW species	45	x 2 =	90
FAC species	100	x 3 =	300
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals	260	(A)	580 (B)

Prevalence Index = B/A = 2.2

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-B18-19_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 - 3	10YR 3/2	98	7.5YR 4/6	2	C	M	Silt Loam	
3 - 15	10YR 5/1	90	7.5YR 4/6	10	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:

A positive indication of hydric soil was observed.

Hydrology Photos

Soil Photos

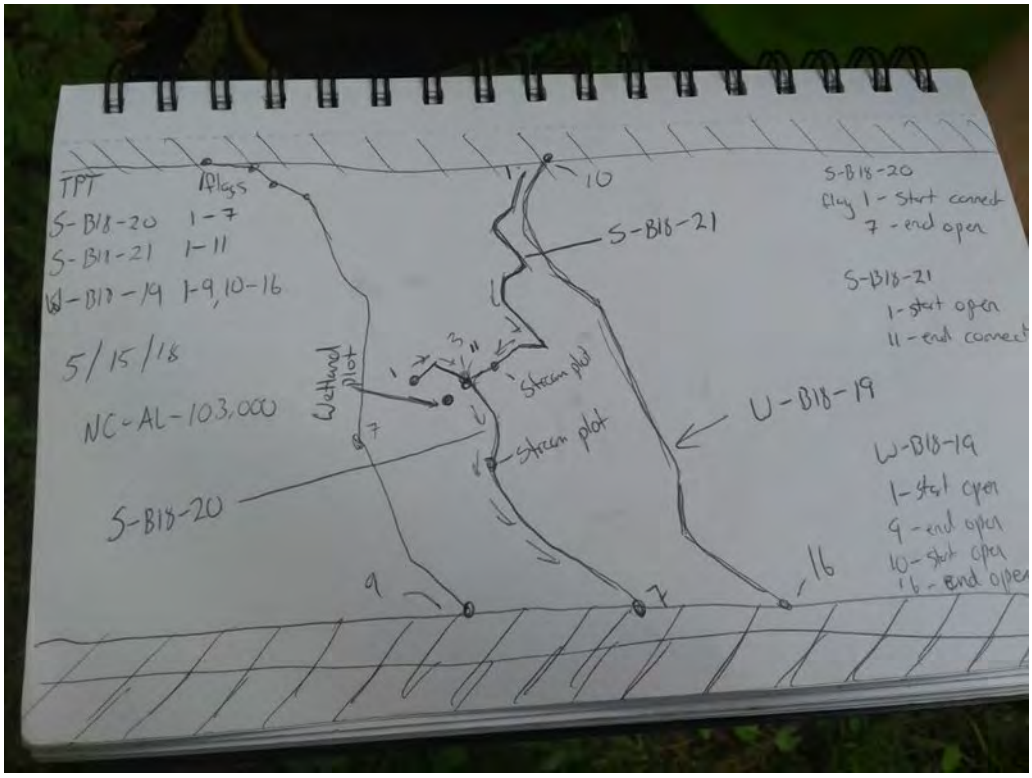
Photo of Sample Plot North

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:** 5, Faucette, Alamance… **Sampling Date:** 2018-May-15
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-19_UPL-1
Investigator(s): James Bolduc, Tony Tredway **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:** 36.1465996 **Long:** -79.4072753 **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 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):	_____
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:

Sampling Point: W-B18-19_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liriodendron tulipifera*	60	Yes	FACU
2. *Liquidambar styraciflua*	20	Yes	FAC
3. *Juglans nigra*	20	Yes	FACU
4.			
5.			
6.			
7.			
	100	= Total Cover	
50% of total cover: 50	20% of total cover: 20		

Sapling/Shrub Stratum (Plot size: 15')			
1. *Lindera benzoin*	50	Yes	FAC
2. *Juglans nigra*	20	Yes	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. *Microstegium vimineum*	80	Yes	FAC
2. *Lonicera japonica*	10	No	FACU
3. *Fragaria vesca*	10	No	FACU
4.			
5.			
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.			
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	0	x 2 =	0
FAC species	150	x 3 =	450
FACU species	120	x 4 =	480
UPL species	0	x 5 =	0
Column Totals	270	(A)	930 (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-B18-19_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	10YR 4/3	100					Fine Sandy Loam	
4 - 10	7.5YR 4/4	100					Fine Sandy Loam	
10 - 18	7.5YR 4/3	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.

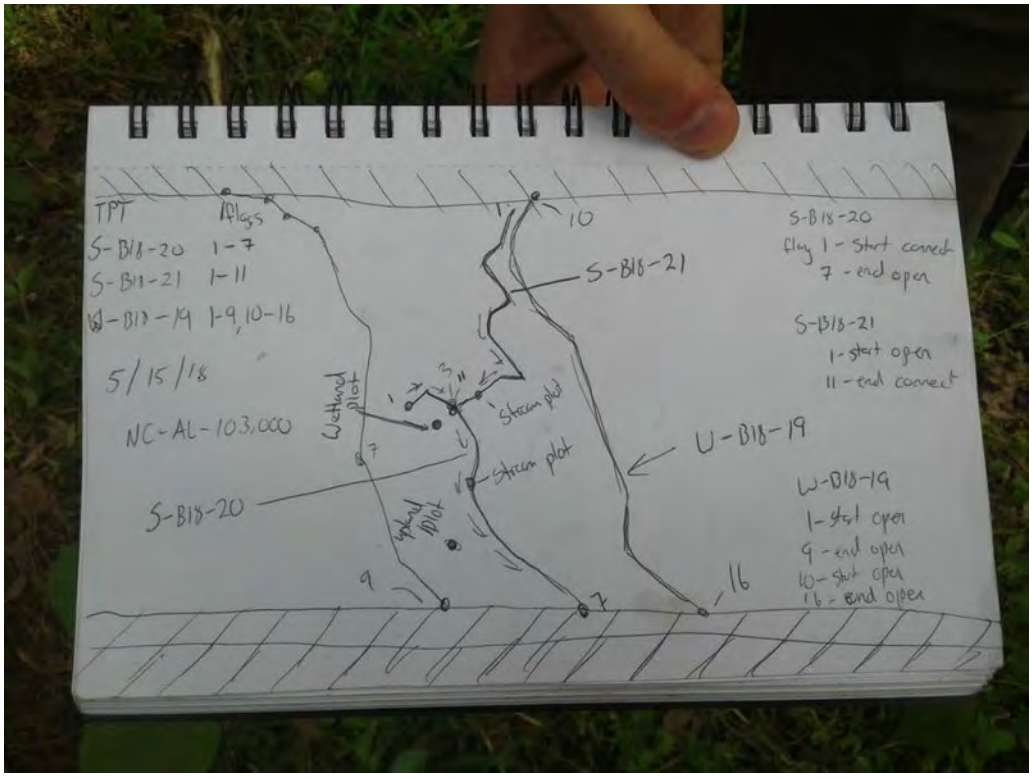
Vegetation Photos

Soil Photos

Photo of Sample Plot North

Photo of Sample Plot South

Photo of Sample Plot Sketch



WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Burlington, Alamance … **Sampling Date:** 2018-June-13
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-115_PFO-1
Investigator(s): Joseph Roy, Jim Bolduc, Jeremy Hummel **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:** 36.1462138 **Long:** -79.4188285 **Datum:** WGS84
Soil Map Unit Name: LOE: Louisburg course 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):	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.

Sampling Point: W-B18-115_PFO-1

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

Tree Stratum (Plot size: 15)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	10	Yes	FACW
2. *Carpinus caroliniana*	10	Yes	FAC
3. *Fraxinus pennsylvanica*			
4.			
5.			
6.			
7.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 4		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer rubrum*	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. *Woodwardia areolata*	5	Yes	FACW
2. *Viola cucullata*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10	= Total Cover	
50% of total cover: 5	20% of total cover: 2		

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	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	45	(A)	115 (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).

SOIL

Sampling Point: W-B18-115_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 3/1	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: Bedrock
Depth (inches): 8

Hydric Soil Present? Yes ☑ No ☐

Remarks:

A positive indication of hydric soil was observed.

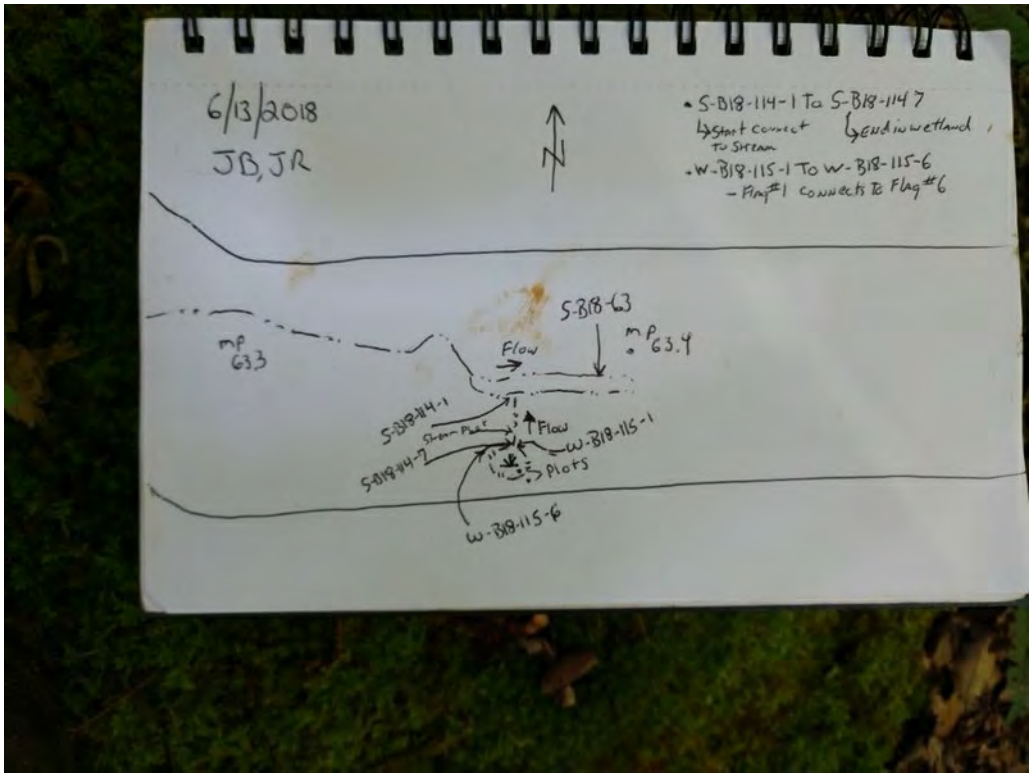
Photo of Sample Plot North

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:** Burlington, Alamance … **Sampling Date:** 2018-June-13
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-115_UPL-1
Investigator(s): Joseph Roy, Jim Bolduc **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1461367 **Long:** -79.4187391 **Datum:** WGS84
Soil Map Unit Name: LoE: Louisburg course 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):	
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-B18-115_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Carpinus caroliniana*	50	Yes	FAC
2. *Liriodendron tulipifera*	20	Yes	FACU
3. *Carya glabra*	15	No	FACU
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.			
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. *Polystichum acrostichoides*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	
50% of total cover: 2.5	20% of total cover: 1		

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:	3	(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	50	x 3 =	150
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals	90	(A)	310 (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-B18-115_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 - 8	10YR 4/6	100					Fine Sandy Loam	
8 - 18	10YR 5/4	100						

[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
South

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Burlington, Alamance ... **Sampling Date:** 2018-June-04
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-81_PEM-1
Investigator(s): Will Buetow, Simon King, Jim Bolduc **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): drainage **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1392081 **Long:** -79.3914995 **Datum:** WGS84
Soil Map Unit Name: HeB, Helena Sandy loam, 2 to 6 percent slopes **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): _____
Saturation Present? Yes ✓ No ____ Depth (inches): 3
(includes capillary fringe)

Wetland Hydrology Present? Yes ✓ No ____

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).

Sampling Point: W-B18-81_PEM-1

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

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. *Fraxinus pennsylvanica*	5	Yes	FACW
2. *Rubus allegheniensis*	5	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. *Carex vulpinoidea*	20	Yes	OBL
2. *Carex lurida*	20	Yes	OBL
3. *Fraxinus pennsylvanica*	10	No	FACW
4. *Juncus tenuis*	10	No	FAC
5. *Lonicera japonica*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	65	= Total Cover	
50% of total cover: 32.5	20% of total cover: 13		

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	40	x 1 =	40
FACW species	15	x 2 =	30
FAC species	10	x 3 =	30
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals	75	(A)	140 (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.)

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-B18-81_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 3/1	100					Sandy Loam	
4 - 19	10YR 4/1	90	5YR 4/6	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:

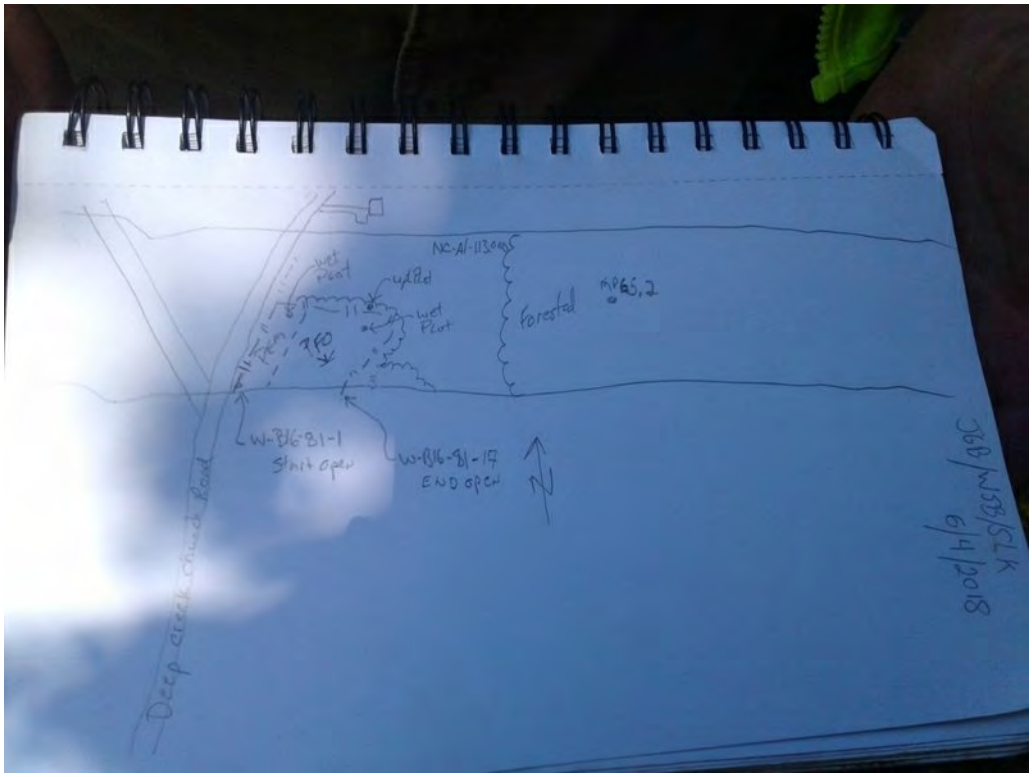
Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

Photo of Sample Plot Sketch



WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Burlington, Alamance … **Sampling Date:** 2018-June-04
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-81_PFO-1
Investigator(s): Will Buetow, Simon King, Jim bolduc **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): drainage **Local relief (concave, convex, none):** Concave **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1391308 **Long:** -79.3909482 **Datum:** WGS84
Soil Map Unit Name: HeB, Helena Sandy loan, 2 to 6 percent slopes **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):	_____
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:

A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-B18-81_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	40	Yes	FAC
2. *Fraxinus pennsylvanica*	20	Yes	FACW
3. *Liquidambar styraciflua*	10	No	FAC
4. *Ulmus americana*	10	No	FACW
5. *Quercus alba*	5	No	FACU
6.			
7.			
	85	= Total Cover	
50% of total cover: 42.5	20% of total cover: 17		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer rubrum*	30	Yes	FAC
2. *Quercus alba*	5	No	FACU
3. *Quercus phellos*	5	No	FAC
4. *Fraxinus pennsylvanica*	5	No	FACW
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. *Lonicera japonica*	5	Yes	FACU
2. *Fraxinus pennsylvanica*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10	= Total Cover	
50% of total cover: 5	20% of total cover: 2		

Woody Vine Stratum (Plot size: 30)			
1. *Smilax rotundifolia*	25	Yes	FAC
2.			
3.			
4.			
5.			
	25	= Total Cover	
50% of total cover: 12.5	20% of total cover: 5		

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	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	110	x 3 =	330
FACU species	15	x 4 =	60
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.)

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-B18-81_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	2.5Y 2.5/1	100					Sandy Loam	
3 - 18	10YR 5/1	90	5YR 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:

A positive indication of hydric soil was observed.

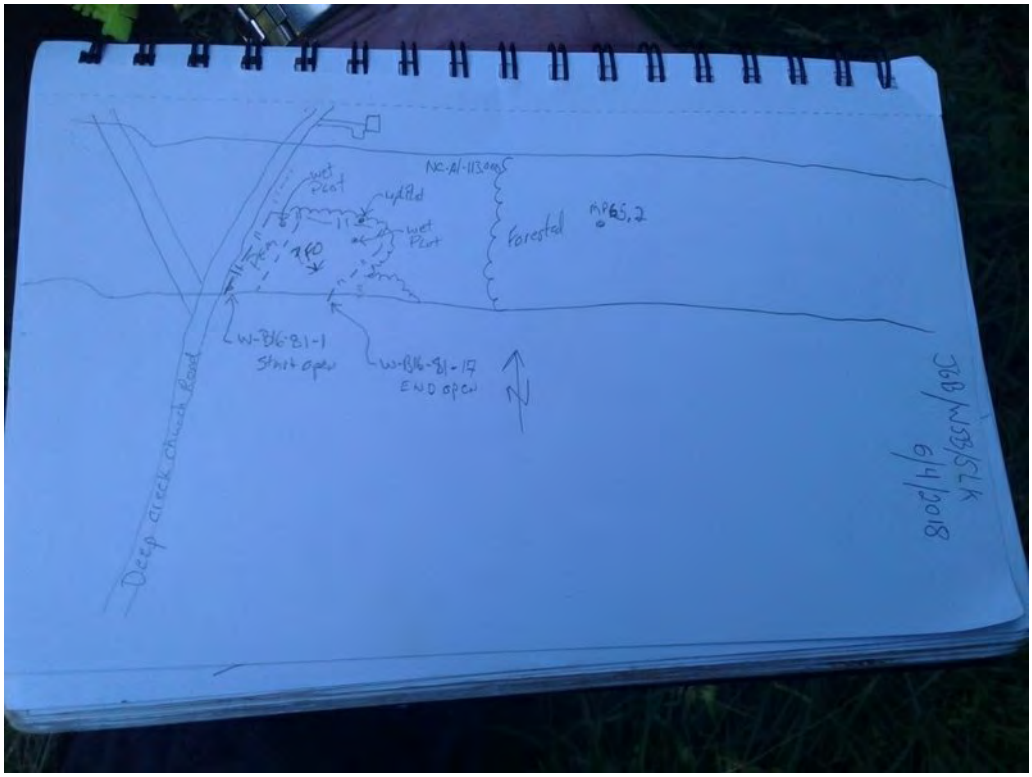
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-June-04
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-81_UPL-1
Investigator(s): Will Buetow, Simon King, Jim Bolduc **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** flat **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1391929 **Long:** -79.3909538 **Datum:** WGS84
Soil Map Unit Name: HeB, Helena Sandy loan, 2 to 6 percent slopes **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.

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):	_____

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

No positive indication of wetland hydrology was observed.

Sampling Point: W-B18-81_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus virginiana*	20	Yes	FACU
2. *Acer rubrum*	20	Yes	FAC
3. *Pinus taeda*	5	No	FAC
4. *Liquidambar styraciflua*	5	No	FAC
5.			
6.			
7.			
	50	= Total Cover	
50% of total cover: 25	20% of total cover: 10		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Carpinus caroliniana*	10	Yes	FAC
2. *Acer rubrum*	5	Yes	FAC
3. *Fraxinus pennsylvanica*	5	Yes	FACW
4. *Vaccinium corymbosum*	5	Yes	FACW
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. *Hemerocallis fulva*	15	Yes	FACU
2. *Prunus serotina*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 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:	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	10	x 2 =	20
FAC species	45	x 3 =	135
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals	95	(A)	315 (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-B18-81_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	10YR 3/2	100					Sandy Loam	
4 - 14	10YR 4/3	100					Loamy Sand	
14 - 18	10YR 4/2	80	10YR 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:

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:** Burlington, Alamance ... **Sampling Date:** 2018-June-04
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-82_PFO-1
Investigator(s): Will Buetow, Simon King, Jim Bolduc **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:** 36.13844 **Long:** -79.3891494 **Datum:** WGS84
Soil Map Unit Name: HeC, Helena sandy loam, 6 to 10 percent slopes **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. Area has been impacted from logging. .

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):	3
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:

A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-B18-82_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	30	Yes	FACW
2. *Acer rubrum*	20	Yes	FAC
3. *Liquidambar styraciflua*	20	Yes	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. *Acer rubrum*	10	Yes	FAC
2. *Fraxinus pennsylvanica*	10	Yes	FACW
3. *Liquidambar styraciflua*	5	No	FAC
4. *Vaccinium corymbosum*	5	No	FACW
5. *Quercus phellos*	5	No	FAC
6.			
7.			
8.			
9.			
	35	= Total Cover	
50% of total cover: 17.5	20% of total cover: 7		

Herb Stratum (Plot size: 5)			
1. *Microstegium vimineum*	30	Yes	FAC
2. *Bidens frondosa*	15	Yes	FACW
3. *Dichanthelium clandestinum*	15	Yes	FAC
4. *Scirpus atrovirens*	6	No	OBL
5. *Carex lurida*	5	No	OBL
6. *Juncus effusus*	5	No	FACW
7.			
8.			
9.			
10.			
11.			
	76	= Total Cover	
50% of total cover: 38	20% of total cover: 15.2		

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:	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	11	x 1 =	11
FACW species	65	x 2 =	130
FAC species	105	x 3 =	315
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	181	(A)	456 (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.)

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-B18-82_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	100					Mucky Sandy Loam	
2 - 4	10YR 3/1	90	10YR 3/2	10	C	M	Sandy Loam	
4 - 11	10YR 5/1	90	10YR 4/6	10	C	M	Sandy Clay Loam	
11 - 18	10YR 5/4	100					Sandy Clay Loam	abrupt boundary.

[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. The soil is compacted from past logging..

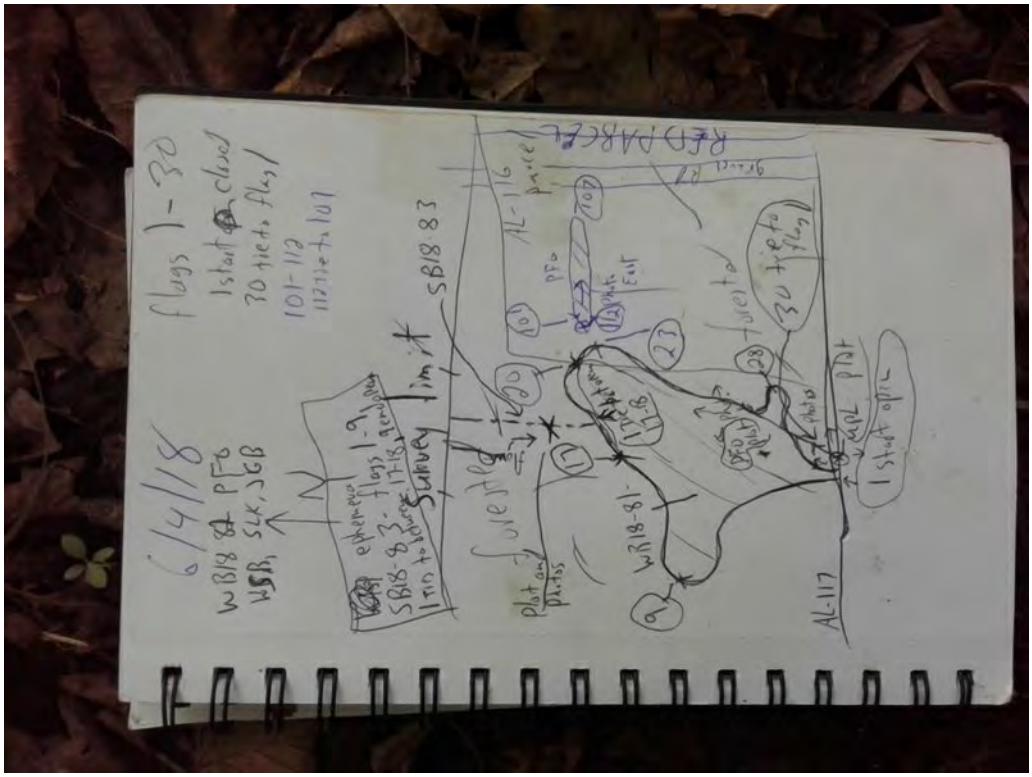
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-June-04
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-82_UPL-1
Investigator(s): Will Buetow, Simon King, Jim Bolduc **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** flat **Slope (%):** 2 to 5
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.138361 **Long:** -79.3892534 **Datum:** WGS84
Soil Map Unit Name: HeC, Helena Sandy loam, 6 to 10 percent slopes **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. Ditches/drain tiles observed. Area has been compacted and disturbed from past logging..

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):	_____

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

No positive indication of wetland hydrology was observed.

Sampling Point: W-B18-82_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus alba*	40	Yes	FACU
2. *Liquidambar styraciflua*	20	Yes	FAC
3. *Juniperus virginiana*	10	No	FACU
4. *Carya glabra*	10	No	FACU
5.			
6.			
7.			
	80	= Total Cover	
50% of total cover: 40	20% of total cover:	16	

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. *Vaccinium angustifolium*	10	Yes	FACU
2. *Rubus idaeus*	5	Yes	FAC
3. *Vitis rotundifolia*	5	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover:	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:	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	30	x 3 =	90
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals	100	(A)	370 (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-B18-82_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 2/2	100					Sandy Loam	
3 - 10	10YR 5/3	100					Fine Sandy Loam	
10 - 14	10YR 5/3	90	10YR 4/4	10	C	M	Sandy Loam	
14 - 10	10YR 4/2	80	7.5YR 3/4	20	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:

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:** Burlington, Alamance … **Sampling Date:** 2018-June-05
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-84_PFO-1
Investigator(s): Will Buetow, Jake Brillo, Jim Bolduc **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Undulating **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1348534 **Long:** -79.3775376 **Datum:** WGS84
Soil Map Unit Name: HeC, Helena Sandy loam, 6 to 10 percent slopes **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):	_____
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:

A positive indication of wetland hydrology was observed (primary and secondary indicators were present).

Sampling Point: W-B18-84_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	25	Yes	FAC
2. *Liquidambar styraciflua*	20	Yes	FAC
3. *Nyssa sylvatica*	20	Yes	FAC
4. *Liriodendron tulipifera*	15	No	FACU
5. *Carya glabra*	10	No	FACU
6. *Ulmus americana*	10	No	FACW
7. *Quercus phellos*	10	No	FAC
	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. *Carya glabra*	10	Yes	FACU
3. *Ulmus americana*	10	Yes	FACW
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. *Vitis rotundifolia*	10	Yes	FAC
2. *Lonicera japonica*	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: 30)			
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:	7	(A)
Total Number of Dominant Species Across All Strata:	9	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	77.8	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	105	x 3 =	315
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals	165	(A)	515 (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-B18-84_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 - 4	10YR 3/1	100					Sandy Loam	
4 - 6	10YR 4/2	100					Sandy Loam	
6 - 10	10YR 4/1	95	10YR 3/6	5	C	M	Sandy Clay Loam	
10 - 18	10YR 5/2	90	10YR 3/6	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:

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:** Burlington, Alamance ... **Sampling Date:** 2018-June-05
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-84_UPL-1
Investigator(s): Will Buetow, Jake Brillo, Jim Bolduc **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1348208 **Long:** -79.3774495 **Datum:** WGS84
Soil Map Unit Name: HeB, Helena Sandy loam, 2 to 6 percent slopes **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):	_____
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:

No positive indication of wetland hydrology was observed.

Sampling Point: W-B18-84_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liquidambar styraciflua*	30	Yes	FAC
2. *Carya glabra*	30	Yes	FACU
3. *Pinus taeda*	25	Yes	FAC
4. *Quercus alba*	10	No	FACU
5. *Acer rubrum*	10	No	FAC
6.			
7.			
	105	= Total Cover	
50% of total cover: 52.5	20% of total cover: 21		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer rubrum*	106	Yes	FAC
2. *Prunus serotina*	10	No	FACU
3. *Liquidambar styraciflua*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
	121	= Total Cover	
50% of total cover: 60.5	20% of total cover: 24.2		

Herb Stratum (Plot size: 5)			
1. *Vitis rotundifolia*	5	Yes	FAC
2. *Lonicera japonica*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10	= Total Cover	
50% of total cover: 5	20% of total cover: 2		

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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	181	x 3 =	543
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column Totals	236	(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.)

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

SOIL

Sampling Point: W-B18-84_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	10YR 3/2	100					Sandy Loam	
4 - 12	10YR 4/2	100					Sandy Loam	
12 - 18	10YR 5/2	85	10YR 3/6	15	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:

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:** 5, Faucette, Alamance… **Sampling Date:** 2018-June-22
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-179_PFO-1
Investigator(s): Laura Giese, Jake Brillo, Susan Thebert **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Terrace **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1226279 **Long:** -79.372764 **Datum:** WGS84
Soil Map Unit Name: Enon Sandy loam (EnD) 10 to 15 percent slopes **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):	_____
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:

The criterion for wetland hydrology is met.

Sampling Point: W-A18-179_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	15	Yes	FAC
2. *Liquidambar styraciflua*	15	Yes	FAC
3. *Ulmus americana*	10	Yes	FACW
4. *Betula nigra*	10	Yes	FACW
5.			
6.			
7.			
	50	= Total Cover	
50% of total cover: 25	20% of total cover:	10	

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 crinita*	25	Yes	OBL
2. *Carex tribuloides*	5	No	FACW
3.			
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: 30)			
1. *Smilax rotundifolia*	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:	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	25	x 1 =	25
FACW species	25	x 2 =	50
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	95	(A)	210 (B)

Prevalence Index = B/A = 2.2

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-A18-179_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	85	10YR 5/8	10	C	M	Silt Loam	
0 - 6			5Y 5/1	5	D	M		
6 - 15	10YR 5/1	90	10YR 5/8	10	C	M	Sandy Loam	
15 - 20	N 5/	90	10YR 4/4	10	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:

A positive indication of hydric soil was observed.

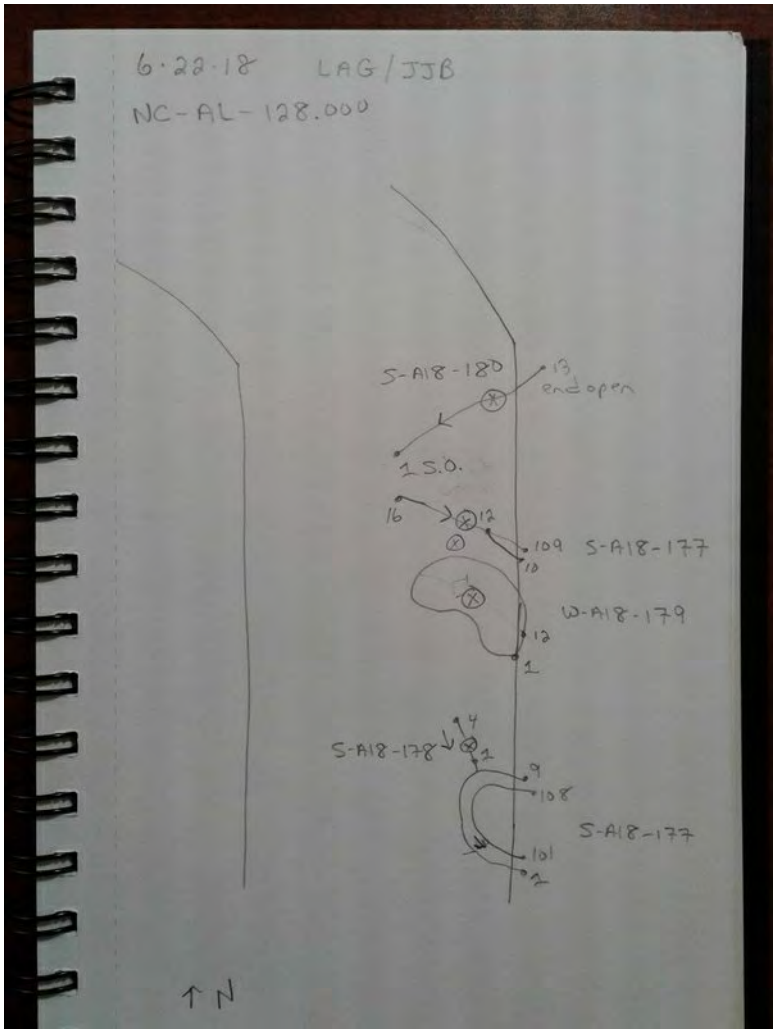
Photo of Sample Plot North

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:** 5, Faucette, Alamance… **Sampling Date:** 2018-June-22
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-179_UPL-1
Investigator(s): Laura Giese, Jake Brillo **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Terrace **Local relief (concave, convex, none):** Flat **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.123076 **Long:** -79.3724367 **Datum:** WGS84
Soil Map Unit Name: Enon Sandy loam (EnD) 10 to 15 percent slopes **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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-179_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Liriodendron tulipifera*	15	Yes	FACU
2. *Fagus grandifolia*	15	Yes	FACU
3. *Liquidambar styraciflua*	10	Yes	FAC
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. *Microstegium vimineum*	15	Yes	FAC
2. *Lonicera japonica*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 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:	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	40	x 3 =	120
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals	75	(A)	260 (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-A18-179_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 3/2	100					Silt Loam	
8 - 20	2.5Y 6/4	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: 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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Burlington, Alamance ... **Sampling Date:** 2018-May-10
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-5_PFO-1
Investigator(s): James Bolduc, Tony Tredway, Karla Fortier **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:** 36.1001062 **Long:** -79.3893178 **Datum:** WGS84
Soil Map Unit Name: _____ **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.

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):	0	

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

Remarks:

Sampling Point: W-B18-5_PFO-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	30	Yes	FACW
2. *Cornus florida*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
50% of total cover: 25	20% of total cover: 10		

Sapling/Shrub Stratum (Plot size: 15')			
1. *Carpinus caroliniana*	40	Yes	FAC
2. *Acer rubrum*	30	Yes	FAC
3. *Cornus florida*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
	80	= Total Cover	
50% of total cover: 40	20% of total cover: 16		

Herb Stratum (Plot size: 5')			
1. *Leersia virginica*	90	Yes	FACW
2. *Sambucus nigra*	10	No	FAC
3.			
4.			
5.			
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. *Toxicodendron radicans*	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:	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	0	x 1 =	0
FACW species	120	x 2 =	240
FAC species	90	x 3 =	270
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals	240	(A)	630 (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.)

SOIL

Sampling Point: W-B18-5_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 3/2	98	7.5YR 5/6	2	C	M	Silt Loam	
5 - 15	10YR 5/1	70	7.5YR 5/6	30	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:

A positive indication of hydric soil was observed.

Hydrology Photos

Vegetation Photos

Soil Photos

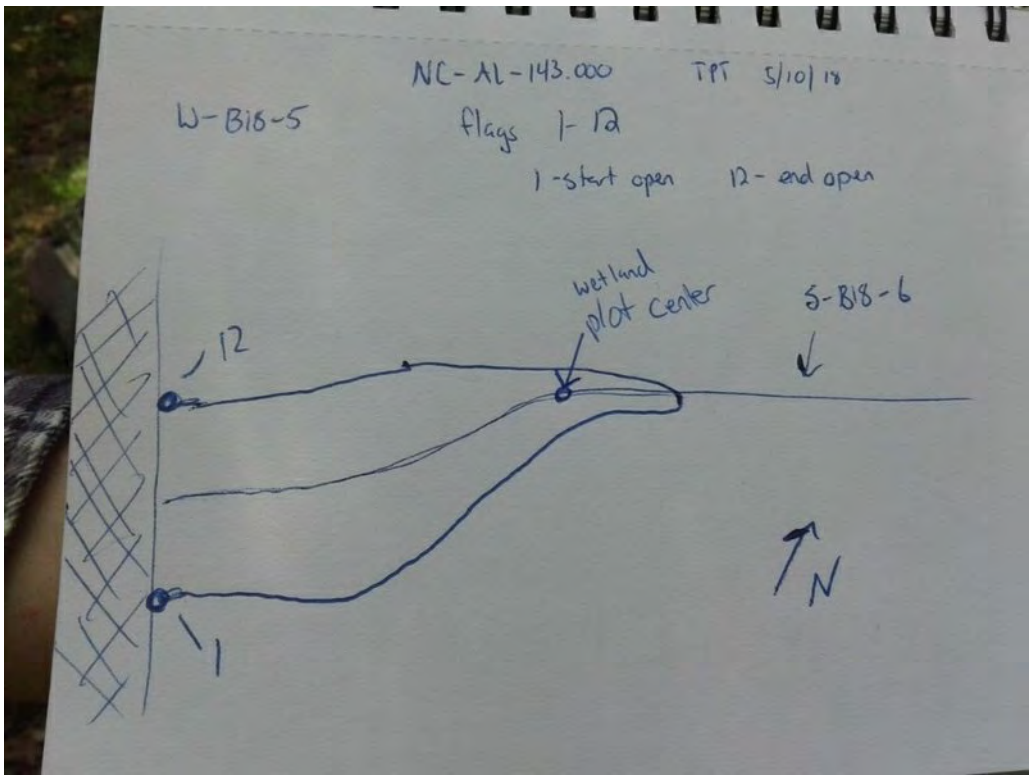
Photo of Sample Plot North

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:** Burlington, Alamance ... **Sampling Date:** 2018-May-10
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-B18-5_UPL-1
Investigator(s): James Bolduc, Tony Tredway, Karla Fortier **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 5 to 10
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.1001062 **Long:** -79.3893178 **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 UPL. no issues.

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):	

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

No positive indication of wetland hydrology was observed.

Sampling Point: W-B18-5_UPL-1

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juglans nigra*	30	Yes	FACU
2. *Carpinus caroliniana*	30	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	60	= Total Cover	
50% of total cover: 30	20% of total cover:	12	

Sapling/Shrub Stratum (Plot size: 15')			
1. *Cercis canadensis*	30	Yes	FACU
2. *Carpinus caroliniana*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	50	= Total Cover	
50% of total cover: 25	20% of total cover:	10	

Herb Stratum (Plot size: 5')			
1. *Polystichum acrostichoides*	90	Yes	FACU
2. *Leersia virginica*	10	No	FACW
3.			
4.			
5.			
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. *Toxicodendron radicans*	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:	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	60	x 3 =	180
FACU species	150	x 4 =	600
UPL species	0	x 5 =	0
Column Totals	220	(A)	800 (B)

Prevalence Index = B/A = 3.6

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-B18-5_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	10YR 3/3	100					Silt Loam	
4 - 15	10YR 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:

No positive indication of hydric soils was observed.

Hydrology Photos

Vegetation Photos

Soil Photos

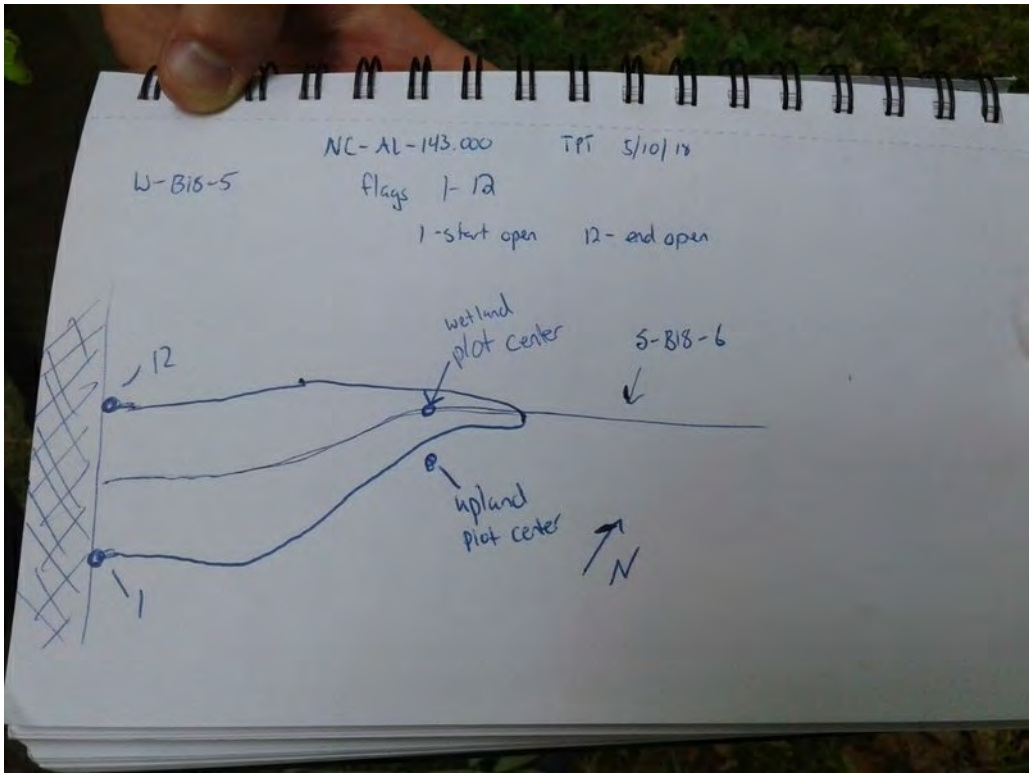
Photo of Sample Plot North

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:** Haw River, Alamance … **Sampling Date:** 2018-May-12
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-13_PEM-1
Investigator(s): Laura Giese, Simon King **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Flood Plain **Local relief (concave, convex, none):** Flat **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.0958528 **Long:** -79.3700864 **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. Circumstances are not normal due to mowing of vegetation.

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):	_____

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.

Sampling Point: W-A18-13_PEM-1

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

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. *Symphyotrichum puniceum*	25	Yes	OBL
2. *Poa annua*	10	Yes	FACU
3. *Juncus acuminatus*	10	Yes	OBL
4. *Juncus tenuis*	10	Yes	FAC
5. *Alopecurus carolinianus*	10	Yes	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	65	= Total Cover	
50% of total cover: 32.5	20% of total cover: 13		

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:	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	10	x 2 =	20
FAC species	10	x 3 =	30
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals	65	(A)	125 (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.)

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

SOIL

Sampling Point: W-A18-13_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 - 5	2.5Y 5/2	90	7.5YR 4/6	10	C	M	Clay Loam	
5 - 11	10YR 4/3	45	2.5Y 5/1	10	D	M	Clay	
5 - 11	2.5YR 4/6	45						
11 - 20	5YR 4/6	95	2.5Y 5/2	5	D	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.

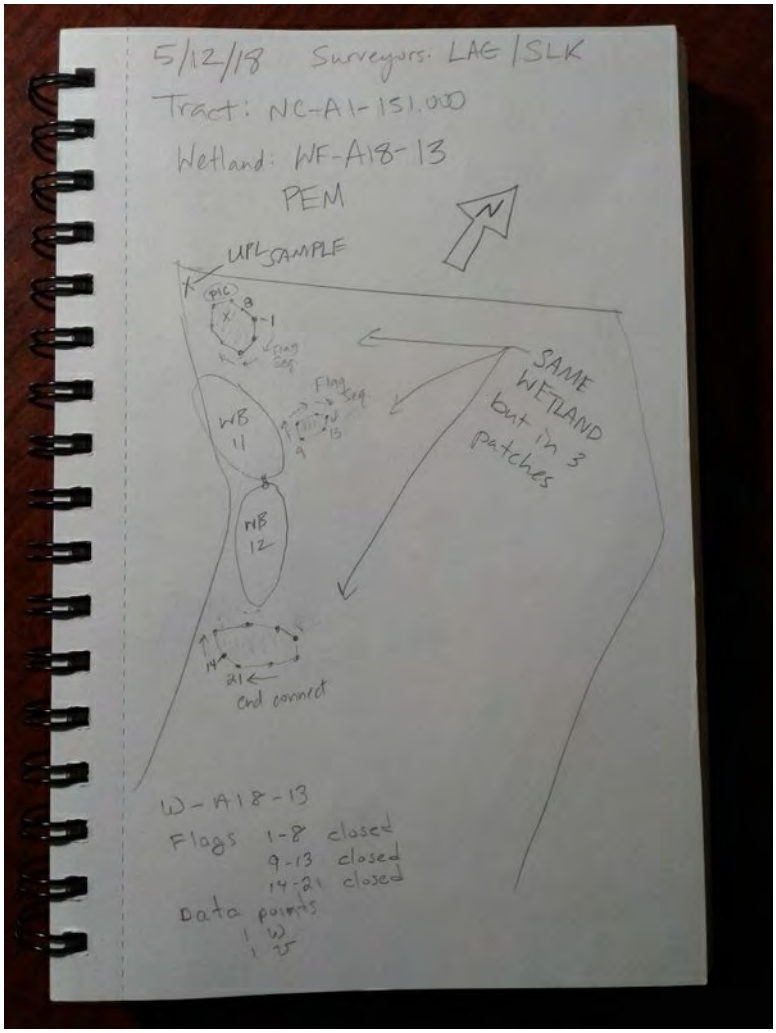
Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

Photo of Sample Plot Sketch



WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Haw River, Alamance … **Sampling Date:** 2018-May-12
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-13_UPL-1
Investigator(s): Laura Giese, Simon King **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:** 36.09568 **Long:** -79.3689515 **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. Circumstances are not normal due to mowing of vegetation.

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):	_____

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 not met.

Sampling Point: W-A18-13_UPL-1

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

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. *Lysimachia nummularia*	30	Yes	FACW
2. *Poa annua*	15	Yes	FACU
3. *Cyperus strigosus*	15	Yes	FACW
4. *Symphyotrichum lanceolatum*	10	No	FACW
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: 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	55	x 2 =	110
FAC species	0	x 3 =	0
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals	70	(A)	170 (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-A18-13_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 - 3	10YR 4/3	95	7.5YR 4/6	5	C	M	Clay Loam	
3 - 9	10YR 4/3	90	2.5Y 5/1	5	D	M	Clay Loam	
3 - 9			7.5YR 4/4	5	C	M		
9 - 20	10YR 4/3	40	2.5Y 5/1	10	D	M	Clay Loam	
9 - 20	5YR 4/6	40	7.5YR 5/8	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:

No positive indication of hydric soils was observed.

Photo of Sample Plot North

Photo of Sample Plot South

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Haw River, Alamance … **Sampling Date:** 2018-May-12
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-14_PEM-1
Investigator(s): Laura Giese, Simon King **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Flood Plain **Local relief (concave, convex, none):** Flat **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.0942526 **Long:** -79.3694646 **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. Circumstances are not normal due to mowing of vegetation.

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):	_____

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.

Sampling Point: W-A18-14_PEM-1

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

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. *Eleocharis obtusa*	30	Yes	OBL
2. *Lysimachia nummularia*	20	Yes	FACW
3. *Poa annua*	10	No	FACU
4. *Alopecurus carolinianus*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	65	= Total Cover	
50% of total cover: 32.5	20% of total cover: 13		

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	30	x 1 =	30
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals	65	(A)	120 (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 (>50% of dominant species indexed as OBL, FACW, or FAC).

SOIL

Sampling Point: W-A18-14_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 - 3	10YR 4/3	95	7.5YR 4/6	5	C	M	Loam	
3 - 9	2.5Y 5/2	90	7.5YR 4/6	10	C	M	Fine Sandy Loam	
9 - 15	10YR 4/3	90	2.5Y 5/1	10	D	M	Fine Sandy Loam	
15 - 20	2.5Y 5/3	60	10Y 5/1	30	D	M	Fine Sandy Loam	Mn concretions
15 - 20	7.5YR 4/6		7.5YR 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:

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:** Haw River, Alamance … **Sampling Date:** 2018-May-12
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-14_UPL-1
Investigator(s): Laura Giese, Simon King **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Flood Plain **Local relief (concave, convex, none):** Flat **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 136 of LRR P **Lat:** 36.0960034 **Long:** -79.3691353 **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. Circumstances are not normal due to mowing of vegetation.

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):	_____

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 not met.

Sampling Point: W-A18-14_UPL-1

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

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. *Glechoma hederacea*	50	Yes	FACU
2. *Trifolium repens*	15	No	FACU
3. *Festuca rubra*	15	No	FACU
4. *Oxalis stricta*	5	No	FACU
5. *Rumex crispus*	5	No	FAC
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:	0	(A)
Total Number of Dominant Species Across All Strata:	1	(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	5	x 3 =	15
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column Totals	90	(A)	355 (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.)

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

SOIL

Sampling Point: W-A18-14_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 - 3	10YR 4/3	100					Loam	
3 - 6	10YR 5/4	93	7.5YR 4/6	5	C	M	Loam	
3 - 6			10YR 5/2	2	D	M		
6 - 16	10YR 4/4	98	7.5YR 4/6	2	C	M	Loam	
16 - 22	10YR 4/4	90	10YR 5/8	5	C	M	Sandy Loam	
16 - 22			2.5Y 5/2	5	D	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

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** 13, Haw River, Alaman… **Sampling Date:** 2018-May-26
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-67_PFO-1
Investigator(s): Laura Giese, Joe Roy **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:** 36.062615 **Long:** -79.3614676 **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):	9
Saturation Present? (includes capillary fringe)	Yes ✓ No ____	Depth (inches):	9

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-A18-67_PFO-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. *Elymus riparius*	25	Yes	FACW
2. *Saururus cernuus*	25	Yes	OBL
3. *Carex tribuloides*	15	No	FACW
4. *Glyceria striata*	10	No	OBL
5. *Lysimachia nummularia*	10	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	85	= Total Cover	
50% of total cover: 42.5	20% of total cover: 17		

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	35	x 1 =	35
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	85	(A)	135 (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.)

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). Trees are on the edge of the wetland boundary.

SOIL

Sampling Point: W-A18-67_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	2.5Y 4/1	85	2.5YR 4/6	15	C	M/PL	Silt Loam	
5 - 19	10YR 5/2	85	5YR 4/6	10	C	M	Silt Loam	
5 - 19			10YR 5/1	5	D	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:

A positive indication of hydric soil was observed.

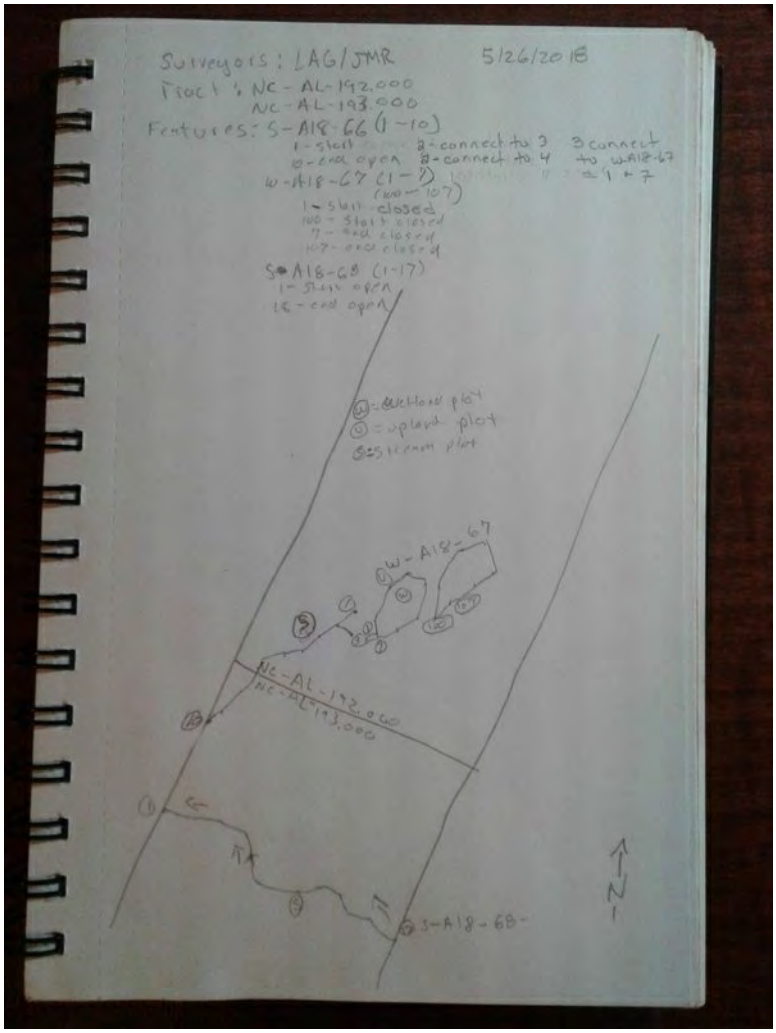
Photo of Sample Plot North

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:** 13, Haw River, Alaman… **Sampling Date:** 2018-May-26
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-67_UPL-1
Investigator(s): Laura Giese, Joe Roy **Section, Township, Range:** _____
Landform (hillslope, terrace, etc.): Flood Plain **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
Subregion (LRR or MLRA): _____ **Lat:** 36.062914 **Long:** -79.3615706 **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):	_____
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-67_UPL-1

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

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	35	Yes	FAC
2. *Fraxinus pennsylvanica*	25	Yes	FACW
3. *Liquidambar styraciflua*	5	No	FAC
4.			
5.			
6.			
7.			
	65	= Total Cover	
50% of total cover: 32.5	20% of total cover: 13		

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. *Glechoma hederacea*	60	Yes	FACU
2. *Elymus riparius*	25	Yes	FACW
3. *Ligustrum sinense*	15	No	FACU
4. *Carex tribuloides*	10	No	FACW
5. *Boehmeria cylindrica*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	115	= Total Cover	
50% of total cover: 57.5	20% of total cover: 23		

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	0	x 1 =	0
FACW species	65	x 2 =	130
FAC species	40	x 3 =	120
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals	180	(A)	550 (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-A18-67_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 3/3	100					Silt Loam	
2 - 13	10YR 4/3	100					Clay Loam	
13 - 19	10YR 4/3	93	7.5YR 3/4	5	C	M	Clay Loam	
13 - 19			10YR 5/2	2	D	M		
19 - 22	7.5YR 4/4	80	7.5YR 3/4	10	C	M	Clay Loam	
19 - 22			2.5Y 5/2	10	D	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 East

Photo of Sample Plot West

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP Southgate **City/County:** Graham, Alamance Co... **Sampling Date:** 2018-June-04
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-111_PEM-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **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:** 36.0462266 **Long:** -79.3659625 **Datum:** WGS84
Soil Map Unit Name: Cullen Clay 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):	
Water Table Present?	Yes ____ No ✓	Depth (inches):	
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:

The criterion for wetland hydrology is met.

Sampling Point: W-A18-111_PEM-1

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

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*	45	Yes	FACW
2. *Carex stipata*	30	Yes	OBL
3. *Festuca rubra*	25	Yes	FACU
4. *Carex lupulina*	15	No	OBL
5. *Scirpus atrovirens*	10	No	OBL
6. *Trifolium pratense*	10	No	FACU
7. *Trifolium repens*	10	No	FACU
8. *Symphyotrichum puniceum*	5	No	OBL
9.			
10.			
11.			
	150	= Total Cover	
50% of total cover: 75	20% of total cover: 30		

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	60	x 1 =	60
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column Totals	150	(A)	330 (B)

Prevalence Index = B/A = 2.2

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.)

Fallow field. A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

SOIL

Sampling Point: W-A18-111_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 4/2	50	10YR 4/4	45	C	M	Loam	
0 - 3	10YR 5/8	5					Loam	
3 - 8	10YR 4/2	70	10YR 4/4	25	C	M	Clay Loam	
3 - 8	10YR 5/8	5						
8 - 16	10YR 4/2	80	10YR 4/4	15	C	M	Clay Loam	
8 - 16	10YR 5/8	5						

[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. Soil disturbed, although not significantly enough to obscure hydric soil indicators, as a result of historical filling or grading.

Photo of Sample Plot North

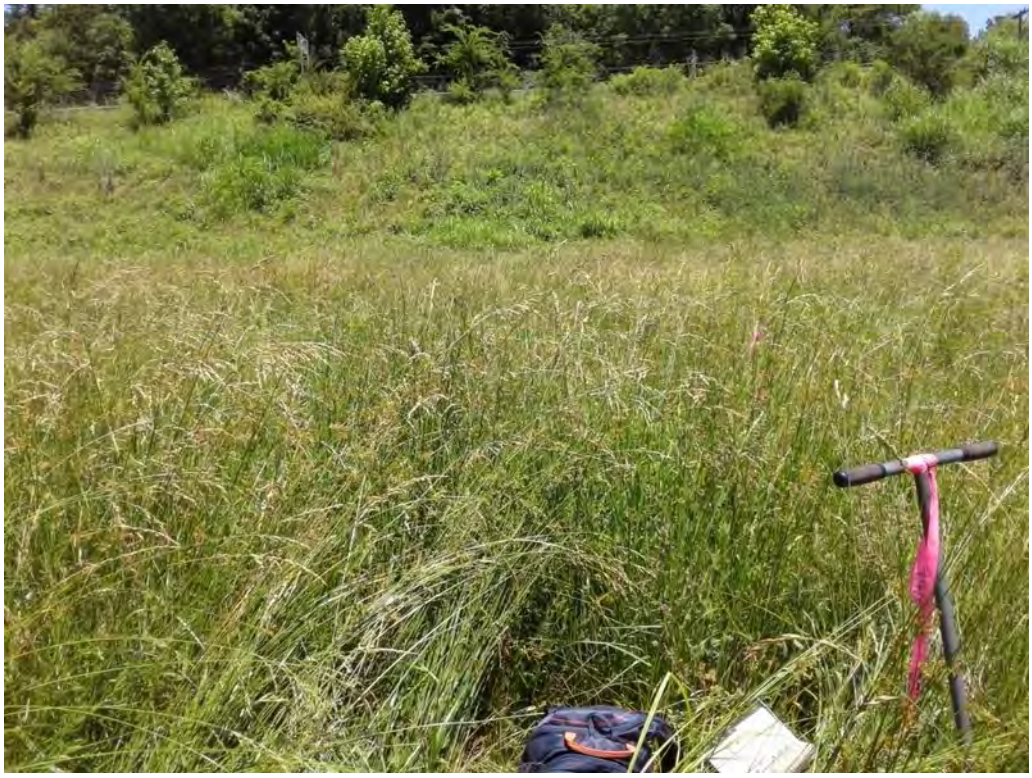


Photo of Sample Plot East

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:** Graham, Alamance Co... **Sampling Date:** 2018-June-04
Applicant/Owner: NextEra **State:** North Carolina **Sampling Point:** W-A18-111_UPL-1
Investigator(s): Laura Giese, Jeff Vandeveer , Nate Renaudin **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:** 36.0461808 **Long:** -79.3660653 **Datum:** WGS84
Soil Map Unit Name: Cullen Clay 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):	
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:

The criterion for wetland hydrology is not met.

Sampling Point: W-A18-111_UPL-1

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

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. *Symphyotrichum puniceum*	20	Yes	OBL
2. *Festuca rubra*	20	Yes	FACU
3. *Juncus tenuis*	15	Yes	FAC
4. *Trifolium pratense*	15	Yes	FACU
5. *Trifolium repens*	15	Yes	FACU
6. *Carex stipata*	10	No	OBL
7. *Dactylis glomerata*	10	No	FACU
8. *Symphyotrichum puniceum*		No	OBL
9.			
10.			
11.			
	105	= Total Cover	
50% of total cover: 52.5	20% of total cover: 21		

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		x 1 =	
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	60	x 4 =	240
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.)

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

SOIL

Sampling Point: W-A18-111_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 4/4	80	10YR 4/2	17	C	M	Silt	
0 - 8	10YR 5/8	3					Loam	
8 - 16	10YR 4/4	90	10YR 4/2	7	C	M	Loam	
8 - 16	10YR 5/8	3						
16 - 20	10YR 4/2	60	10YR 4/4	35	C	M	Clay Loam	
16 - 20	10YR 5/8	5						

[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