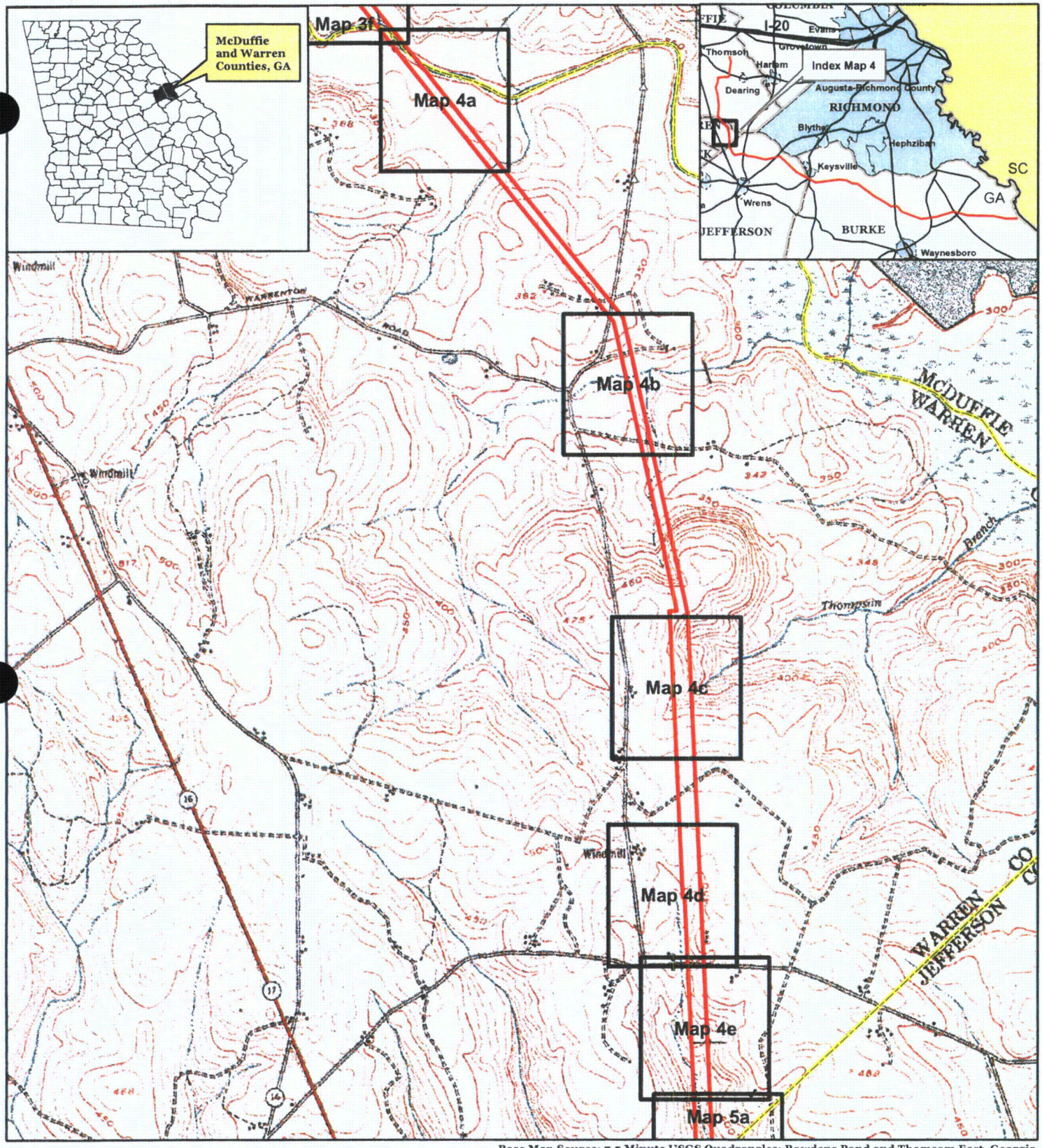


Base Map Source: 7.5 Minute USGS Quadrangles: Bowdens Pond and Thomsom East, Georgia.

Legend

- Surveyed Area
- County Boundary

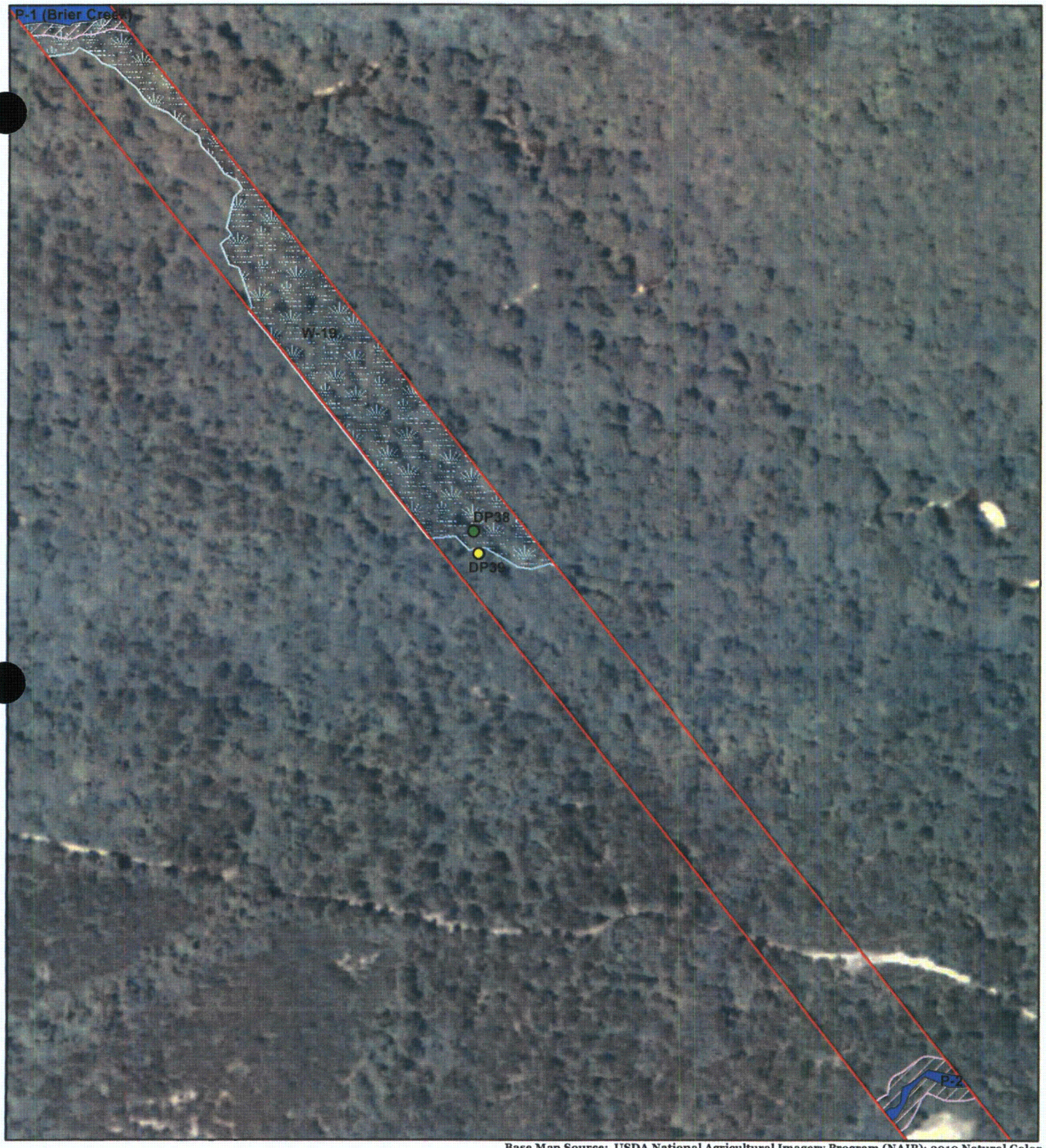
0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet

1:24,000

N

Georgia Power Thomson-Vogtle 500kV Transmission Line Mcduffie and Warren Counties, Georgia	**WETLAND & ECOLOGICAL CONSULTANTS, LLC Woodstock, Georgia**	**Index Map 4** **WEC Project No. 02-050508**



Base Map Source: USDA National Agricultural Imagery Program (NAIP): 2010 Natural Color Imagery for Georgia acquired between July 3, 2010 and October 6, 2010.

Legend

- Upland Data Point
- Wetland Data Point
- Road
- Surveyed Area
- Wetland
- Perennial Stream
- 25-ft. Buffer

0 55 110 220 330 440 Feet

1 inch = 250 feet

1:3,000

N

Georgia Power **Thomson-Vogtle 500kV** **Transmission Line** **Mcduffie and Warren** **Counties, Georgia**	**WETLAND & ECOLOGICAL** **CONSULTANTS, LLC** **Woodstock, Georgia**	**Features Map 4a** **WEC Project No. 02-050508**

Stream Feature Datasheet

Feature No.: P-1	**Map No.:** 3f, 4a	**Feature ID.:** 02per01N	**Type:** Perennial
Date Surveyed: 4/27/2011 & 4/28/2011	**County:** McDuffie & Warren	**Watershed:** Brier	
8-Digit HUC[1]: 03060108		**12-Digit HUC:** 030601080102	
Acreage: 0.25		**Length:** 170 linear feet	
Substrate: Sand and Silt	**Width[2]:** >40 linear feet	**Depth[3]:** 1-2 feet	
Comments: Brier Creek			

[1] HUC – U.S. Geological Survey Hydrologic Unit Code
[2] Width was measured in linear feet from Ordinary High-water Mark (OHWM) to OHWM.
[3] Depth was measured in feet from the OHWM to thalweg.

NCDWQ Stream Identification Data Collected Within the Corridor for the Proposed Thomson-Vogtle 500 kV Transmission Line.

Date: 4/27/11	Project Site: Thomson-Vogtle	Feature No.: P-1 (Brier Creek)
Evaluator: MEN & MWW	County: McDuffie and Warren, GA	Feature ID: 02per01N (Brier Creek)

Parameter	Scoring Category	Numerical Score
A. Geomorphology		
1. Continuity of bed and bank	Strong	3
2. Sinuosity of channel along thalweg	Moderate	2
3. In-channel structure: ex. riffle/pool sequence	Strong	3
4. Particle size of stream substrate	Strong	3
5. Active/relict floodplain	Strong	3
6. Depositional bars or benches	Strong	3
7. Recent alluvial deposits	Strong	3
8. Headcuts	Absent	0
9. Grade control	Absent	0
10. Natural valley or drainage way	Strong	1.5
11. 2nd order channel on USGS or NRCS map? (Yes =3/No=0)	Yes	3
B. Hydrology		
12. Presence of Baseflow	Strong	3
13. Iron oxidizing bacteria	Absent	0
14. Leaf litter	Absent	1.5
15. Sediment on plants or debris	Absent	0
16. Organic debris lines or piles	Strong	1.5
17. Soil-based evidence of high water table? (Yes =3/No=0)	Yes	3
C. Biology		
18. Fibrous roots in streambed	Absent	3
19. Rooted upland plants in streambed	Absent	3
20. Macrobenthos	Strong	3
21. Aquatic mollusks	Strong	3
22. Fish	Strong	1.5
23. Crayfish	Strong	1.5
24. Amphibians	Strong	1.5
25. Algae	Absent	0
26. Wetland plants in streambed (FACW=0.75; OBL=1.5; Other=0)	Other	0
Total Points:		**50**
Stream Type:		**Perennial**

Prepared by: MDH; Date: 3/23/2012
Checked by: MEN: Date: 5/7/2012

Wetland Feature Datasheet

Feature No.: W-19	**Map No.:** 3f, 4a	**Feature ID.:** 02wet012AN	**Type:** Forested
Date Surveyed: 4/28/2011 & 3/07/2012	**County:** Warren	**Watershed:** Brier	
8-Digit HUC[1]: 03060108		**12-Digit HUC:** 030601080103	
Total Acreage: 3.28		**Forested Acreage:** 3.28	

Dominant Vegetation: *Liquidambar styraciflua, Liriodendron tulipifera, Carpinus caroliniana, Betula nigra, Athyrium filix-femina, Arundinaria gigantea, Leucothoe axillaris, Smilax rotundifolia, Vitis rotundifolia*

Comments:

[1] HUC – U.S. Geological Survey Hydrologic Unit Code

Print Form

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Thomson-Vogtle Transmission Line City/County: Warren County Sampling Date: 4/28/2011

Applicant/Owner: Georgia Power Company State: GA Sampling Point: DP38 (W-19)

Investigator(s): MEN, MWW Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR P Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Ro (hydric), TwC NWI classification: PF01A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [X] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [X] 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 [X]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [X] No [ ]
Hydric Soil Present?	Yes [X]	No [ ]	
Wetland Hydrology Present?	Yes [X]	No [ ]	

Remarks:

02wet12AN

HYDROLOGY

Wetland Hydrology Indicators:

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

- [ ] Surface Water (A1)
- [X] High Water Table (A2)
- [X] 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)
- [X] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] 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)
- [X] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [X] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [X] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [X]	Depth (inches): _____
Water Table Present?	Yes [X]	No [ ]	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes [X]	No [ ]	Depth (inches): 0

Wetland Hydrology Present? Yes [X] No [ ]

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

Remarks:

burrowing crayfish found in pit

VEGETATION – Use scientific names of plants.

Sampling Point: DP38

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar styraciflua	15	☒	FAC
2. Liriodendron tulipifera	5	☒	FAC
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	20 = Total Cover		

Sapling Stratum (Plot size: _____)			
1. Carpinus caroliniana	15	☒	FAC
2. Betula nigra	10	☒	FACW
3. Platanus occidentalis	2	☐	FACW
4. Ilex opaca	5	☐	FAC
5. Liquidambar styraciflua	10	☒	FAC
6.		☐	
7.		☐	
	42 = Total Cover		

Shrub Stratum (Plot size: _____)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	_____ = Total Cover		

Herb Stratum (Plot size: _____)			
1. Athyrium filix-femina	10	☒	FAC
2. Arundinaria gigantea	5	☒	FACW
3. Carex sp.	5	☐	N/A
4. Leucothoe axillaris	5	☒	FACW
5.		☐	
6.		☐	
7.		☐	
8.		☐	
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	25 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. Smilax rotundifolia	8	☒	FAC
2. Vitis rotundifolia	5	☒	FAC
3.		☐	
4.		☐	
5.		☐	
	13 = Total Cover		

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	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: (If observed, list morphological adaptations below).
Species with "N/A" indicator status were not included in the dominance calculation.

SOIL

Sampling Point: DP38

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 - 15	10YR3/1	100					Si. Loam	Silt loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☒ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Data Point was taken within the floodplain of Brier Creek approximately 4 miles downstream of the Southern Outer Piedmont Ecoregion. Approximately 47 square-miles of Brier Creeks drainage basin is within the Southern Outer Piedmont Ecoregion.

Print Form

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Thomson-Vogtle Transmission Line City/County: Warren County Sampling Date: 4/27/2011

Applicant/Owner: Georgia Power Company State: GA Sampling Point: DP39 (W-19)

Investigator(s): MEN, MWW Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR P Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Ro (hydric) NWI classification: PF01A

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 ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒
Hydric Soil Present?	Yes ☐	No ☒	
Wetland Hydrology Present?	Yes ☐	No ☒	

Remarks:

upland point for 02wet12AN

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)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ 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)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ 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:

Hydrologic indicators not present.

VEGETATION – Use scientific names of plants.

Sampling Point: DP39

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar styraciflua	15	☒	FAC
2. Fagus grandiflora	5	☒	FACU
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	20 = Total Cover		

Sapling Stratum (Plot size: _____)			
1. Liquidambar styraciflua	15	☒	FAC
2. Platanus occidentalis	2	☐	FACW
3. Aralia spinosa	5	☐	FAC
4. Cornus florida	5	☐	FAC
5.		☐	
6.		☐	
7.		☐	
	27 = Total Cover		

Shrub Stratum (Plot size: _____)			
1. Callicarpa americana	10	☒	FACU
2. Aralia spinosa	5	☒	FAC
3. Quercus nigra	5	☒	FAC
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	20 = Total Cover		

Herb Stratum (Plot size: _____)			
1. Athyrium filix-femina	5	☒	FAC
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
8.		☐	
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	5 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. Smilax rotundifolia	10	☒	FAC
2. Vitis rotundifolia	5	☒	FAC
3. Lonicera japonica	3	☐	FAC
4.		☐	
5.		☐	
	18 = Total Cover		

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: 78% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: DP39

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 - 3	2.5Y3/2	100					S. Loam	Sandy Loam
3 - 15	2.5Y6/4	100					S. Loam	Sandy Loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Hydric soil indicators not present.

Stream Feature Datasheet

Feature No.: P-2	**Map No.:** 4a	**Feature ID.:** 02per02N	**Type:** Perennial
Date Surveyed: 4/28/2011	**County:** Warren	**Watershed:** Brier	
8-Digit HUC[1]: 03060108		**12-Digit HUC:** 030601080102	
Acreage: 0.06		**Length:** 180 linear feet	
Substrate: Sand and Silt	**Width[2]:** 6 - 8 linear feet	**Depth[3]:** 1.0 foot	
Comments:			

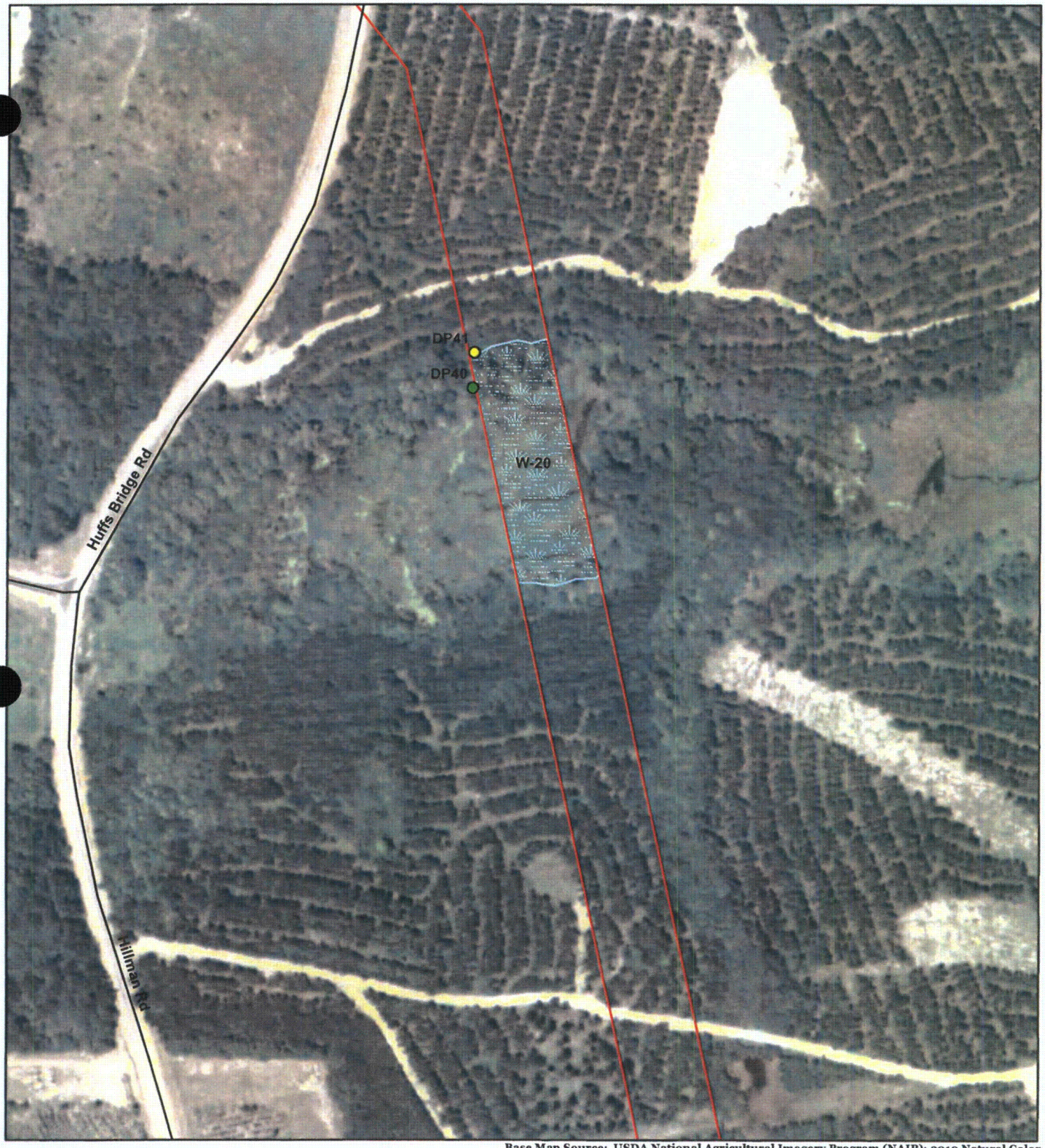
[1] HUC – U.S. Geological Survey Hydrologic Unit Code
[2] Width was measured in linear feet from Ordinary High-water Mark (OHWM) to OHWM.
[3] Depth was measured in feet from the OHWM to thalweg.

NCDWQ Stream Identification Data Collected Within the Corridor for the Proposed Thomson-Vogtle 500 kV Transmission Line.

Date: 4/28/11	Project Site: Thomson-Vogtle	Feature No.: P-2
Evaluator: MEN & MWW	County: Warren, GA	Feature ID: 02per02N

Parameter	Scoring Category	Numerical Score
A. Geomorphology		
1. Continuity of bed and bank	Strong	3
2. Sinuosity of channel along thalweg	Strong	3
3. In-channel structure: ex. riffle/pool sequence	Strong	3
4. Particle size of stream substrate	Strong	3
5. Active/relict floodplain	Weak	1
6. Depositional bars or benches	Moderate	2
7. Recent alluvial deposits	Strong	3
8. Headcuts	Absent	0
9. Grade control	Absent	0
10. Natural valley or drainage way	Strong	1.5
11. 2nd order channel on USGS or NRCS map? (Yes =3/No=0)	Yes	3
B. Hydrology		
12. Presence of Baseflow	Strong	3
13. Iron oxidizing bacteria	Absent	0
14. Leaf litter	Absent	1.5
15. Sediment on plants or debris	Strong	1.5
16. Organic debris lines or piles	Strong	1.5
17. Soil-based evidence of high water table? (Yes =3/No=0)	Yes	3
C. Biology		
18. Fibrous roots in streambed	Absent	3
19. Rooted upland plants in streambed	Absent	3
20. Macrobenthos	Strong	3
21. Aquatic mollusks	Weak	1
22. Fish	Strong	1.5
23. Crayfish	Strong	1.5
24. Amphibians	Strong	1.5
25. Algae	Absent	0
26. Wetland plants in streambed (FACW=0.75; OBL=1.5; Other=0)	Other	0
Total Points:		**47.5**
Stream Type:		**Perennial**

Prepared by: MDH; Date: 3/23/2012
Checked by: MEN; Date: 5/7/2012



Base Map Source: USDA National Agricultural Imagery Program (NAIP): 2010 Natural Color Imagery for Georgia acquired between July 3, 2010 and October 6, 2010.

Legend

- Upland Data Point
- Wetland Data Point
- Road
- Surveyed Area
- Wetland

0 55 110 220 330 440 Feet

1 inch = 250 feet

1:3,000

N

Georgia Power **Thomson-Vogtle 500kV** **Transmission Line** **Warren County, Georgia**	**WETLAND & ECOLOGICAL CONSULTANTS, LLC** **Woodstock, Georgia**	**Features Map 4b** **WEC Project No. 02-050508**

Wetland Feature Datasheet

Feature No.: W-20	**Map No.:** 4b	**Feature ID.:** 03wet01N	**Type:** Forested & Scrub-Shrub & Emergent
Date Surveyed: 5/09/2011 and 10/06/2011	**County:** Warren	**Watershed:** Brier	
8-Digit HUC[1]: 03060108		**12-Digit HUC:** 030601080201	
Total Acreage: 1.55		**Forested Acreage:** 0.27	
Dominant Vegetation: *Magnolia virginiana, Liquidambar styraciflua, Ilex opaca, Viburnum nudum, Acer rubrum, Woodwardia areolata, Typha domingensis, Smilax rotundifolia*			
Comments:			

[1] HUC – U.S. Geological Survey Hydrologic Unit Code

Print Form

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Thomson-Vogtle Transmission Line City/County: Warren County Sampling Date: 5/9/2011

Applicant/Owner: Georgia Power Company State: GA Sampling Point: DP40 (W-20)

Investigator(s): MEN and MWW Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR P Lat: _____ Long: _____ Datum: _____

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 ☐	**Is the Sampled Area within a Wetland?** Yes ☒ No ☐
Hydric Soil Present?	Yes ☒	No ☐	
Wetland Hydrology Present?	Yes ☒	No ☐	

Remarks:

03wet01N

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)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ 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)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☒	No ☐	Depth (inches): 15
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:

First data point in Section 3.

VEGETATION – Use scientific names of plants.

Sampling Point: DP40

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liriodendron tulipifera	5	☐	FAC
2. Magnolia virginiana	10	☒	FACW
3. Nyssa sylvatica	5	☐	FAC
4. Liquidambar styraciflua	10	☒	FAC
5. Acer rubrum	5	☐	FAC
6.		☐	
7.		☐	
	35 = Total Cover		

Sapling Stratum (Plot size: _____)			
1. Ilex opaca	10	☒	FAC
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	= Total Cover		

Shrub Stratum (Plot size: _____)			
1. Viburnum nudum	10	☒	FACW
2. Acer rubrum	5	☒	FAC
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	15 = Total Cover		

Herb Stratum (Plot size: _____)			
1. Woodwardia areolata	15	☒	OBL
2. Osmunda cinnamomea	1	☐	FACW
3. Leersia oryzoides	15	☒	OBL
4. Typha domingensis	10	☒	OBL
5. Cicuta maculata	1	☐	OBL
6.		☐	
7.		☐	
8.		☐	
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	42 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. Smilax rotundifolia	3	☐	FAC
2.		☐	
3.		☐	
4.		☐	
5.		☐	
	3 = Total Cover		

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	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: DP40

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 - 2	10YR3/3	100					S. Loam	Sandy Loam w/ Peat, Roots
2 - 4	10YR2/2	100					S. Loam	Sandy Loam
4 - 18	10YR5/2	95	7.5YR6/8	5	C	PL	S. Loam	Sandy Loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Print Form

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Thomson-Vogtle Transmission Line City/County: Warren County Sampling Date: 5/9/2011

Applicant/Owner: Georgia Power Company State: GA Sampling Point: DP41 (W-20)

Investigator(s): MEN and MWW Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR P Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [X] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [X] 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 [X]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [X]
Hydric Soil Present?	Yes [ ]	No [X]	
Wetland Hydrology Present?	Yes [ ]	No [X]	

Remarks:

upland point for 03wet01N

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)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] 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)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [X]	Depth (inches): _____
Water Table Present?	Yes [ ]	No [X]	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes [ ]	No [X]	Depth (inches): _____

Wetland Hydrology Present? Yes [ ] No [X]

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

Remarks:

Hydrologic indicators not present.

VEGETATION – Use scientific names of plants.

Sampling Point: DP41

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	10	☒	FAC
2. Ilex opaca	10	☒	FAC
3. Quercus nigra	15	☒	FAC
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	35 = Total Cover		
Sapling Stratum (Plot size: _____)			
1. Magnolia virginiana	20	☒	FACW
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	20 = Total Cover		
Shrub Stratum (Plot size: _____)			
1. Ilex opaca	10	☒	FAC
2. Callicarpa americana	5	☒	FACU
3. Vaccinium elliottii	3	☒	FAC
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	15 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Toxicodendron radicans	2	☐	FAC
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
8.		☐	
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	2 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Smilax rotundifolia	10	☒	FAC
2. Vitis rotundifolia	10	☒	FAC
3.		☐	
4.		☐	
5.		☐	
	20 = Total Cover		

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: 89% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: DP41

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 - 2	2.5Y5/4	100					S. Loam	Sandy Loam w/ Roots.
2 - 18	2.5Y5/4	100					L. Sand	Loamy sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Hydric soil indicators not present.

Base Map Source: USDA National Agricultural Imagery Program (NAIP): 2010 Natural Color Imagery for Georgia acquired between July 3, 2010 and October 6, 2010.

Legend

- Non Jurisdictional (indicated as blueline on USGS map)
- Road
- Surveyed Area

0 55 110 220 330 440 Feet

1 inch = 250 feet

1:3,000

N

Georgia Power **Thomson-Vogtle 500kV** **Transmission Line** **Warren County, Georgia**	**WETLAND & ECOLOGICAL CONSULTANTS, LLC** **Woodstock, Georgia**	**Features Map 4c** **WEC Project No. 02-050508**

Non-Jurisdictional Feature Datasheet

Feature No.: NJD-1	**Map No.:** 4c	**Feature ID.:** NJD-1	**Type:** Non Jurisdictional
Date Surveyed: 10/05/2011	**County:** Warren	**Acreage/Length:** NA	
Comments: Non Jurisdictional Feature (indicated as blueline feature on USGS map).			

Base Map Source: USDA National Agricultural Imagery Program (NAIP): 2010 Natural Color Imagery for Georgia acquired between July 3, 2010 and October 6, 2010.

Legend

- Road
- Surveyed Area
- Other Feature

0 55 110 220 330 440 Feet

1 inch = 250 feet

1:3,000

N

Georgia Power **Thomson-Vogtle 500kV** **Transmission Line** **Warren County, Georgia**	**WETLAND & ECOLOGICAL CONSULTANTS, LLC** **Woodstock, Georgia**	**Features Map 4d** **WEC Project No. 02-050508**

Non-Jurisdictional Feature Datasheet

Feature No.: OTH-13	**Map No.:** 4d	**Feature ID.:** 030th01C	**Type:** Other feature
Date Surveyed: 10/06/2011	**County:** Warren	**Acreage/Length:** 2.24 acres	
Comments: Kaolin Pit; Same feature as 030th01N surveyed on 5/10/2011.			

Base Map Source: USDA National Agricultural Imagery Program (NAIP): 2010 Natural Color Imagery for Georgia acquired between July 3, 2010 and October 6, 2010.

Legend

- Upland Data Point
- Wetland Data Point
- Road
- Surveyed Area
- Wetland

0 55 110 220 330 440 Feet

1 inch = 250 feet

1:3,000

N

Georgia Power **Thomson-Vogtle 500kV** **Transmission Line** **Warren County, Georgia**	**WETLAND & ECOLOGICAL CONSULTANTS, LLC** **Woodstock, Georgia**	**Features Map 4e** **WEC Project No. 02-050508**

Wetland Feature Datasheet

Feature No.: W-21	**Map No.:** 4e, 5a	**Feature ID.:** 03wet02N	**Type:** Forested & Scrub-Shrub
Date Surveyed: 5/10/2011 and 10/07/2011	**County:** Warren	**Watershed:** Brier	
8-Digit HUC[1]: 03060108		**12-Digit HUC:** 0306010802103	
Total Acreage: 6.54		**Forested Acreage:** 3.84	
Dominant Vegetation: *Liriodendron tulipifera, Acer rubrum, Alnus serrulata, Liquidambar styraciflua, Leucothoe axillaris, Carex atlantica, Dichanthelium commutatum*			
Comments:			

[1] HUC – U.S. Geological Survey Hydrologic Unit Code

Print Form

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Thomson-Vogtle Transmission Line City/County: Warren County Sampling Date: 5/10/2011

Applicant/Owner: Georgia Power Company State: GA Sampling Point: DP42 (W-21)

Investigator(s): MEN and MWW Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR P Lat: _____ Long: _____ Datum: _____

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 ☐	**Is the Sampled Area within a Wetland?** Yes ☒ No ☐
Hydric Soil Present?	Yes ☒	No ☐	
Wetland Hydrology Present?	Yes ☒	No ☐	

Remarks:

03wet02N

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)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ 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)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ 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:

VEGETATION – Use scientific names of plants.

Sampling Point: DP42

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liriodendron tulipifera	10	☒	FAC
2. Acer rubrum	10	☒	FAC
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	20 = Total Cover		

Sapling Stratum (Plot size: _____)			
1. Liriodendron tulipifera	10	☒	FAC
2. Acer rubrum	10	☒	FAC
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	20 = Total Cover		

Shrub Stratum (Plot size: _____)			
1. Hypericum sp.	2	☐	N/A
2. Acer rubrum	10	☒	FAC
3. Alnus serrulata	5	☒	FACW
4. Liquidambar styraciflua	5	☒	FAC
5.		☐	
6.		☐	
7.		☐	
	22 = Total Cover		

Herb Stratum (Plot size: _____)			
1. Leucothoe axillaris	10	☒	FACW
2. Carex lurida	2	☐	OBL
3. Osmunda cinnamomea	2	☐	FACW
4. Carex atlantica	5	☒	FACW
5. Dichanthelium commutatum	5	☒	FAC
6. Peltandra virginicus	2	☐	OBL
7.		☐	
8.		☐	
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	26 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. Parthencissus quinquefolia	7	☒	FAC
2. Smilax rotundifolia	5	☒	FAC
3.		☐	
4.		☐	
5.		☐	
	12 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 12 (A)

Total Number of Dominant Species Across All Strata: 12 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: (If observed, list morphological adaptations below).
Species with "N/A" indicator status were not included in the dominance calculation.

SOIL

Sampling Point: DP42

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 - 2	10YR3/2	100					Si. Loam	Silt Loam; Roots
2 - 4	10YR8/8	100					C. Loam	Clay Loam
4 - 18	10YR5/1	100					S. Loam	Sandy Loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Print Form

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Thomson-Vogtle Transmission Line City/County: Warren County Sampling Date: 5/10/2011

Applicant/Owner: Georgia Power Company State: GA Sampling Point: DP43 (W-21)

Investigator(s): MEN and MWW Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): LRR P Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [X] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [X] 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 [X]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [X]
Hydric Soil Present?	Yes [ ]	No [X]	
Wetland Hydrology Present?	Yes [ ]	No [X]	

Remarks:

upland point for 03wet02N

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)
- [ ] Marl Deposits (B15) **(LRR U)**
- [ ] 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)
- [ ] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [X] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes [ ]	No [X]	Depth (inches): _____
Water Table Present?	Yes [ ]	No [X]	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes [ ]	No [X]	Depth (inches): _____

Wetland Hydrology Present? Yes [ ] No [X]

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

Remarks:

Hydrologic indicators not present.

VEGETATION – Use scientific names of plants.

Sampling Point: DP43

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus laurifolia	10	☒	FACW
2. Ilex opaca	15	☒	FAC
3. Pinus taeda	20	☒	FAC
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	45 = Total Cover		
Sapling Stratum (Plot size: _____)			
1. Liriodendron tulipifera	3	☒	FAC
2. Liquidambar styraciflua	5	☒	FAC
3. Ilec coriacea	3	☒	FACW
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	11 = Total Cover		
Shrub Stratum (Plot size: _____)			
1. Vaccinium elliottii	4	☐	FAC
2. Ilex opaca	20	☒	FAC
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	24 = Total Cover		
Herb Stratum (Plot size: _____)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
8.		☐	
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Smilax rotundifolia	3	☒	FAC
2. Vitis rotundifolia	2	☒	FAC
3.		☐	
4.		☐	
5.		☐	
	5 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: DP43

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 - 5	10YR4/3	100					L. Sand	Loamy Sand
5 - 7	10YR5/1	100					L. Sand	Loamy Sand
7 - 18	10YR4/1	100					L. Sand	Loamy Sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12) **(LRR T, U)**
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Hydric soil indicators not present.