Section 15
Soils and Bedrock

15.0 SOILS AND BEDROCK

Albert Frick Associates, Inc. completed appropriate intensity soil surveys for the Highland Wind Project (Project) generating facility, Operations & Maintenance building, and generator lead. See Appendix 15-1 (in separate volume). The resulting report concludes that with proper planning and construction techniques, the soils are appropriate for the proposed construction activities. During surveying and planning of the Project, the applicant's consultants worked closely with the State Soil Scientist to determine appropriate survey extents. As a result of these discussions, the soils report includes additional information concerning poorly drained and somewhat-poorly drained soils.

Prior to construction, a geotechnical investigation of new road segments and each turbine pad will be completed. A preliminary geotechnical assessment is currently underway, and a summary of these results will be provided to the Land Use Regulation Commission in early 2010. The results of these investigations will determine the type of turbine foundation design appropriate for each location. It is likely that rock anchors will be utilized at this Project.

A desktop analysis of the potential for acid rock drainage was completed. The slivers of Carrabassett formation rocks on the ridge crest were apparently "roof pendants" that sank into the intruding quatrz monzonite/granitic magma body that dominates the project area. These slivers are referred to in the literature as a "highly metamorphosed pelitic granofels", which indicates significant thermal and chemical changes to the roof pendants. Although the Carrabassett formation unit Css is mapped in the Carrabassett region generally as a sulfide-bearing, rusty-weathering rock, on Witham and Stewart mountains the intruding magma body (the "Lexington batholith") has metamorphosed the rocks that it intruded to an extremely high grade, with extreme heat and pressure, resulting in a recrystallization and mineralogical change to the original rocks. Iron sulfide (pyrite) in the Css unit would have been altered (think extreme cooking, oxidation, and leaching) and the chemical components juggled, with a resultant high-grade metamorphic rock now containing quartz, sillimanite, andalusite, garnet, muscovite, and biotite, and none of the original iron sulfides. The iron would have been remobilized into garnet and biotite during the metamorphic event, and sulfur remobilized and concentrated into volatiles in the magma (gases). As a result, the highly-metamorphosed Carrabassett formation on the ridge should be very stable chemically and not pose a significant metal leaching risk. During blasting and construction, it will be valuable to examine the exposed rock and determine the leaching potential, and utilize appropriate reuse Best Management Practices to avoid acid water leaching issues. Further discussion of potential acidic stormwater and surface water drainage based on site specific geotechnical investigations is provided in Appendix 15-2.

Appendix 15-1

Refer to separate volume for complete soil surveys.

Appendix 15-2

SUMMIT

ENVIRONMENTAL CONSULTING • GEOTECHNICAL ENGINEERING • CONSTRUCTION MATERIALS TESTING

PN: 17541

January 18, 2010

Robert Gardiner
Highland Wind LLC
c/o Wagner Wind Energy II, LLC
150 Orford Rd
PO Box 160
Lyme, New Hampshire 03768

RE: Acid Rock Drainage

Dear Mr. Gardiner:

On behalf of Highland Wind, LLC, Summit Geoenginering Services, (Summit) has evaluated the bedrock geology of the project Site to assess whether acidic storm water or surface water runoff is likely to be generated from exposed bedrock resulting from bedrock cuts or fills during construction.

Background

Environmental impacts resulting from acidic surface water drainage have been well documented in the Appalachian basin and most typically are associated with large scale coal mining activities in Pennsylvania and West Virginia. To a lesser extent, acidic drainage can occur as a result of mineral mining operations.

Acid drainage can be generated when the following conditions exist:

- Elevated concentrations of sulfide, iron and carbonaceous material are present in the rock matrix. The most common mineral associated with acid drainage is pyrite (FeS2). During chemical weathering of the rocks, the interaction of rainwater with the sulfide minerals produces a weak sulfuric acid.
- Strongly reducing conditions exist (low Ph, low dissolved oxygen, negative Oxidation-Reduction Potential (ORP)).

- A significant volume (and more importantly, surface area) of freshly exposed rock or mine tailings.

Highland Project Site

In general, the rock types and geologic setting of the western Maine mountains are not conducive to generation of acid drainage. However, where rock formations exist with more abundant pyrite, further evaluation and/or plans to address potential acidic drainage may be warranted.

Rock types within the project area include a complex mix of geologic units ranging from metasedimentary rocks to a massive intrusive igneous pluton. Bedrock in this area is mapped as parts of the Seboomook Formation, the Carrabassett Formation and the Lexington Batholith. The Seboomook and Carrabassett Formations are Lower Devonian aged formations that originated as sedimentary rocks (mudstones from ancient ocean deposits) that have been heavily metamorphosed into schist-like metamorphic rocks. Witham Mountain is part of the Lexington Batholith, an intrusive igneous complex that is the dominant geologic formation in the area.

The transition between the igneous intrusive complex and metamorphic rocks (i.e., the Witham elbow area) may be an area where geologic conditions could have been more conducive to mineral formation, specifically pyrite, in quantities that could pose a concern.

With respect to the Witham elbow area, Summit's geotechnical investigation included geological analysis of four borings at proposed turbine sites W-17, W-18, W-19 and W-20. Borings were advanced to a depth of fifty (50) feet at each proposed turbine location. Overburden was sampled (where present) and bedrock beneath overburden was cored to approximately 50 feet below ground surface. Since overburden is thin in this area, 43 to 48 feet of core were recovered from these borings and evaluated for rock type and mineral content. Rock cores from the Witham elbow area were classified as metasedimentary rocks (schist and phyllite) and felsic igneous rocks (monzodiorite, diorite and granite). Minerals identified in the igneous rocks included primarily biotite, muscovite and quartz. Pyrite was not observed in the cores of either igneous or metamorphic rocks in the Witham elbow area. Additionally, significant iron staining was not noted on fracture planes of the Witham Mountain cores. Iron staining on fracture planes is often an indication that iron-based minerals are present and in contact with ground water (or infiltrating surface water) migrating through the rocks.

The lack of sulfide minerals in these rock cores is supported by geologic literature published for the area. The geologic reference material for the Witham Mountain area, 'Metamorphic Stratigraphy, Petrology and Structural Geology of the Little Bigelow Mountain Area, Western Maine' Bulletin 24 by Gary Boone of the Maine Geological Survey (1973) notes that "both metapelite and metagraywacke vary slightly from bed to bed in terms of very minor amounts of pyrite".

Based on Summit's geotechnical investigation and geologic analysis, sulfide-based minerals were not identified in the bedrock core samples from the Witham Mountain area. As such, it is unlikely that acidic surface water runoff from newly exposed rock surfaces (blasting) or use of blasted rock (fill, rip-rap, gravel) would occur due to chemical interaction of precipitation and exposed rock.

If you have any questions concerning this letter, please feel free to contact me.

Sincerely,
SUMMIT GEOENGINEERING SERVICES

Michael Deyling

Michael A. Deyling, CG
President, Maine Certified Geologist

MICHAEL DEYLING
No. 270

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 1 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	SANDY LOAM	FRIABLE	DARK YELLOWISH BROWN	
			LIGHT OLIVE BROWN	
20		FIRM	OLIVE BROWN	
30	REFUSAL (BEDROCK)			
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 30 "

☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SO M

Soil Series Name: RAWSONVILLE/DIXFIELD (VARIANT)

Drainage Class: MODERATLEY WELL/WELL

Hydrologic Group: C

Observation Hole TP 2 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
			GRAY (ALBIC)	
10	SANDY LOAM	FRIABLE		
			STRONG BROWN	
20				FEW FAINT
	REFUSAL (BEDROCK)			
30				
40				
50				

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 22 "

☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name: RAWSONVILLE/DIXFIELD (VARIANT)

Drainage Class: MODERATLEY WELL/WELL

Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 3 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			GRAY (ALBIC)	
10	SANDY LOAM	FRIABLE	STRONG BROWN	△△△ FREE WATER (WEEK OF HEAVY RAIN ABNORMALLY HIGH)
			LIGHT OLIVE BROWN	
20	REFUSAL (BEDROCK)			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 22 "

☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FO SC MAPPING

Soil Series Name: RAWSONVILLE (ATYPICAL) OXYAQUIC

Drainage Class: MODERATELY WELL

Hydrologic Group: C

Observation Hole TB 4 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	SANDY LOAM	FRIABLE	DARK REDDISH BROWN	
20				
30	REFUSAL (BEDROCK)			
40				
50				

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 28 "

☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

Albert Frick

Site Evaluator / Soil Scientist Signature

SE/CSS #: 163/66

Date: 6/22/09

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation: HIGHLAND PLANTATION

Street, Road Subdivision: HIGHLAND WIND PROJECT

Owner's Name: HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 5 ■ Test Pit ☐ Boring

____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
			GRAY (ALBIC)	
10	SANDY LOAM	FRIABLE	YELLOWISH BROWN	△△△ FREE WATER (ABNORMALLY HIGH 1 WEEK+ OF RAIN)
20	REFUSAL (BEDROCK)			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 19 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

FOR SC M

Soil Series Name: HOGBACK/RAWSONVILLE (ATYPICAL)

Drainage Class: MODERATELY WELL

Hydrologic Group: B/C

Observation Hole TP 6 ■ Test Pit ☐ Boring

____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	FRIABLE	DARK BROWN	
	SANDY LOAM		STRONG BROWN	
10	BEDROCK			
20				
30				
40				
50				

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 8 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

Soil Series Name: ABRAM

Drainage Class: EXCESSIVELY

Hydrologic Group: D

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 7 ☐ Test Pit ■ Boring

____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	△△△
10	SANDY LOAM	FRIABLE	STRONG BROWN	FREE WATER (ABNORMALLY HIGH 1 WEEK+ OF RAIN)
20			LIGHT OLIVE BROWN	
30	REFUSAL (BEDROCK)			
40	NOTE: RECOMMEND AREA FOR CROSS-DRAINAGE			
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 28 "

☐ Ground Water
■ Restrictive Layer
■ Bedrock
☐ Pit Depth

F SC MAPPING

Soil Series Name: RAWSONVILLE

OXYAQUIC

Drainage Class: WELL

Hydrologic Group: C

Observation Hole TP 8 ■ Test Pit ☐ Boring

____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			GRAY (ALBIC)	
10	SANDY LOAM	FRIABLE	STRONG BROWN	
20	REFUSAL (BEDROCK)			
30				
40				
50				

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 19 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

Soil Series Name: HOGBACK

Drainage Class: WELL

Hydrologic Group: B

Albert Frick

Site Evaluator /Soil Scientist Signature

163/66

SE/CSS #

6/22/09

Date

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 9 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0				ΔΔΔ FREE WATER
10	SANDY LOAM	FRIABLE	YELLOWISH BROWN	
20				
	REFUSAL (BEDROCK)			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	23 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SO MA

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK OXYAQUIC	WELL	B

Observation Hole TP 10 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	GRAVELLY LOAMY SAND	FRIABLE	LIGHT YELLOWISH BROWN	
20				ΔΔΔ FREE WATER
	REFUSAL (BEDROCK)			
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	18 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 11 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0	FINE SANDY LOAM		GRAY	
10	GRAVELLY FINE SANDY LOAM	FRIABLE	STRONG BROWN	
20				ΔΔΔ FREE WATER
	BEDROCK			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	24 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FC SC MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TP 12 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE	BLACK	
	BEDROCK			
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	4 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Albert Frick	163/66	6/22/09
Site Evaluator / Soil Scientist Signature	SE/CSS #	Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 13 ■ Test Pit ☐ Boring

______" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	FRIABLE	BLACK	
	SANDY LOAM		GRAY	
10		BEDROCK		
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 0-10"

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

FOR SO… MA…

Soil Series Name: ABRAM

Drainage Class: EXCESSIVLEY

Hydrologic Group: D

Observation Hole TP 14 ■ Test Pit ☐ Boring

______" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE	BLACK TO DARK RED	
10	FINE SANDY LOAM			
		BEDROCK		
20				
30				
40				
50				

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 14 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

Soil Series Name: RICKER (INCLUSION)

Drainage Class: WELL

Hydrologic Group: A

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 15 ■ Test Pit ☐ Boring

______" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	FRIABLE		
		BEDROCK		
10				
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 3 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

FO… SO… MAPPING

Soil Series Name: RICKER (INCLUSION)

Drainage Class: WELL

Hydrologic Group: A

Observation Hole TB 16 ☐ Test Pit ■ Boring

______" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20				
30		REFUSAL (BEDROCK)		
40				
50				

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 31 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

Albert Frick

Site Evaluator /Soil Scientist Signature

SE/CSS #: 163/66

Date: 6/22/09

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 17 ☐ Test Pit ☒ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC		GRAY	△△△ FREE WATER
10	SANDY LOAM	FRIABLE	OLIVE GRAY	
20				
30	BEDROCK	BEDROCK	BEDROCK	BEDROCK
40	SMALL INCLUSION SLIGHTLY OUTSIDE TURBINE AREA			
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	3-8 %	2 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SO M

Soil Series Name:	Drainage Class:	Hydrologic Group:
NASKEAG	POORLY	C

Observation Hole TP 18 ☒ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	HUMUS	FRIABLE	DARK REDDISH BROWN	
10	BEDROCK	BEDROCK	BEDROCK	BEDROCK
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	11 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 19 ☒ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	SANDY LOAM	FRIABLE	LIGHT YELLOWISH BROWN LIGHT OLIVE BROWN	
20		FIRM	OLIVE BROWN	COMMON DISTINCT
30				
40				
50	(LIMIT OF EXCAVATION @ 70")			

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	20 "	☒ Ground Water ☒ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FO SO MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATLEY WELL	C

Observation Hole TP 20 ☒ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			GRAY	
10	SANDY LOAM	FRIABLE	STRONG BROWN	
20	COBBLY SANDY LOAM		LIGHT YELLOWISH BROWN	
30	BEDROCK	BEDROCK	BEDROCK	BEDROCK
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	31 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Albert Frick
Site Evaluator / Soil Scientist Signature

163/66
SE/CSS #

6/22 & 6/23/09
Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 21 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
			GRAY	
	SANDY LOAM			
			STRONG BROWN	
10		FRIABLE		
	COBBLY SANDY LOAM		YELLOWISH BROWN	
20				
		BEDROCK		
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A

Profile Condition

Slope: 20 %

Limiting Factor: 27 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

FOR SO MA

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

Observation Hole TB 22 ☐ Test Pit ■ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
			DARK BROWN	
10	SANDY LOAM	FRIABLE	STRONG BROWN	
20				
		BEDROCK		
30				
40				
50				

Soil Classification: N/A

Profile Condition

Slope: 20 %

Limiting Factor: 21 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 23 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	ORGANIC		BLACK	
	COARSE SAND	FRIABLE	GRAY	
10		BEDROCK		
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A

Profile Condition

Slope: 8-20 %

Limiting Factor: 8-10 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

FO SO MAPPING

Soil Series Name: ABRAM (VARIANT)

Drainage Class: EXCESSIVELY

Hydrologic Group: D

Observation Hole TB 24 ☐ Test Pit ■ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	ORGANIC			
				△△△
10	MUCKY PEAT	FRIABLE	BLACK	FREE WATER
20				
		BEDROCK		
30				
40				
50				

Soil Classification: N/A

Profile Condition

Slope: 8-20 %

Limiting Factor: 0 "

■ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

Soil Series Name: NASKEAG/WASKISH (VARIANT)

Drainage Class: POORLY

Hydrologic Group: C

Albert Frick
Site Evaluator /Soil Scientist Signature

163/66
SE/CSS #

6/23/09
Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 25 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0	ORGANIC		BLACK	
	SANDY LOAM	FRIABLE	GRAY	
10			STRONG BROWN	
20	BEDROCK			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	17 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SO MA

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

Observation Hole TB 26 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0	ORGANIC			
	BEDROCK			
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	4 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 27 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	SANDY LOAM	FRIABLE	DARK YELLOWISH BROWN	
20				
	BEDROCK			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	25 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FO SO MAP ING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TB 28 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0	ORGANIC			
	BEDROCK			
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	4 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Albert Frick
Site Evaluator /Soil Scientist Signature

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SE/CSS #

6/23/09
Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 29 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	SANDY LOAM	FRIABLE	YELLOWISH BROWN	
20			LIGHT OLIVE BROWN	COMMON DISTINCT
30	COBBLY SANDY LOAM	FIRM		
40	REFUSAL			
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	20 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SC MA

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE (VARIANT)	WELL	C

Observation Hole TB 30 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	SANDY LOAM	FRIABLE	STRONG BROWN YELLOWISH BROWN	
20	BEDROCK			
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	18 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 31 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC SANDY LOAM	FRIABLE	BLACK GRAY	
	BEDROCK			
10				
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	4 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FC SC MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Observation Hole TB 32 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC			
	BEDROCK			
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	4 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Albert Frick
Site Evaluator / Soil Scientist Signature

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Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 33 ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	ORGANIC		DARK BROWN	
	SANDY LOAM	FRIABLE	GRAY	
10				COMMON DISTINCT
	BEDROCK			
20				
30				
40				
	NOTE: SWP DEPRESSIONAL AREA			
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	8 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SC M

Soil Series Name:	Drainage Class:	Hydrologic Group:
NASKEAG	POORLY	C

Observation Hole TB 34 ☐ Test Pit ☒ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	COBBLES		GRAY	COMMON DISTINCT & △△△ FREE WATER
20				
	BEDROCK			
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	7 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
NASKEAG (ATYPICAL)	POORLY	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 35 ☐ Test Pit ☒ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE	YELLOWISH BROWN	
20				
	BEDROCK			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	20 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

F S MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK/RAWSONVILLE	WELL	B/C

Observation Hole TB 36 ☐ Test Pit ☒ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
	SANDY LOAM	FRIABLE	DARK YELLOWISH BROWN	
20				
30				
		SOMEWHAT FIRM		
40				
	LIMIT OF EXCAVATION			
	(IN SHALLOW TO BEDROCK UNIT)			
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	30 "	☐ Ground Water ☒ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
MARLOW (VARIANT) (INCLUSION)	WELL	C

Albert Frick
Site Evaluator / Soil Scientist Signature

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SE/CSS #

6/23/09
Date

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 37 ■ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	PEAT		DARK REDDISH BROWN	
	SANDY LOAM	FRIABLE	GRAY	
10	BEDROCK	BEDROCK	BEDROCK	BEDROCK
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL →

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 8 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

FOR SC M →

Soil Series Name: ABRAM

Drainage Class: EXCESSIVELY

Hydrologic Group: D

Observation Hole TB 38 ☐ Test Pit ■ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE	YELLOWISH BROWN	
20				
30	BEDROCK	BEDROCK	BEDROCK	BEDROCK
40				
50				

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 29 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 39 ☐ Test Pit ■ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC			
	BEDROCK	BEDROCK	BEDROCK	BEDROCK
10				
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL →

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 3 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

F SL MAPPING →

Soil Series Name: RICKER

Drainage Class: WELL

Hydrologic Group: A

Observation Hole TP 40 ■ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	PEAT	FRIABLE	DARK REDDISH BROWN	
	SANDY LOAM		GRAY	
10	BEDROCK	BEDROCK	BEDROCK	BEDROCK
20				
30				
40				
50				

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 9 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

Soil Series Name: RICKER

Drainage Class: WELL

Hydrologic Group: A

Albert Frick
Site Evaluator / Soil Scientist Signature

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6/23/09
Date

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 41 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0			GRAY	
10	SANDY LOAM	FRIABLE	STRONG BROWN	
20				COMMON DISTINCT
	REFUSAL (BEDROCK)			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A — Profile / Condition

Slope: 8-20 %

Limiting Factor: 16 "

■ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

FOR SC M

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

Observation Hole TP 42 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	SANDY LOAM	FRIABLE	STRONG BROWN	
20				
30		SOMEWHAT FIRM	LIGHT OLIVE BROWN	COMMON DISTINCT
40	LIMIT OF EXCAVATION			
50				

Soil Classification: N/A — Profile / Condition

Slope: 8-20 %

Limiting Factor: 30 "

■ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

Soil Series Name: DIXFIELD (INCLUSION)

Drainage Class: WELL

Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 43 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0	ORGANIC		GRAY (ALBIC)	
10	SANDY LOAM	FRIABLE	DARK YELLOWISH BROWN	
20	BEDROCK			FREE WATER
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A — Profile / Condition

Slope: 8-20 %

Limiting Factor: 19 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

FOR SC MAPPING

Soil Series Name: HOGBACK

Drainage Class: WELL

Hydrologic Group: B

Observation Hole TP 44 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0			DARK YELLOWISH BROWN	
10	SANDY LOAM	FRIABLE		
			LIGHT OLIVE BROWN	
20		SOMEWHAT FIRM	OLIVE	
30	REFUSAL (BEDROCK)			
40				
50	NOTE: INCLUSION (DIXFIELD SOIL 100'+/- UPSLOPE)			

Soil Classification: N/A — Profile / Condition

Slope: 20 %

Limiting Factor: 20 "

☐ Ground Water
■ Restrictive Layer
☐ Bedrock
☐ Pit Depth

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

Albert Frick
Site Evaluator / Soil Scientist Signature

SE/CSS # 163/66

Date 6/23 & 6/24/09

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 45 ☒ Test Pit ☐ Boring

____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE	DARK BROWN	
			STRONG BROWN	
10				
	BEDROCK			
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A
Profile Condition
Slope: 8-20 %
Limiting Factor: 14 "
☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FOR SO MA

Soil Series Name: HOGBACK
Drainage Class: WELL
Hydrologic Group: B

Observation Hole TP 46 ☒ Test Pit ☐ Boring

____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	SANDY LOAM	FRIABLE	STRONG BROWN	
20				
30	REFUSAL (BEDROCK)			
40				
50				

Soil Classification: N/A
Profile Condition
Slope: 20 %
Limiting Factor: 28 "
☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: RAWSONVILLE
Drainage Class: WELL
Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 47 ☒ Test Pit ☐ Boring

____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE	DARK REDDISH BROWN	
	SANDY LOAM	FRIABLE	GRAY	
10	BEDROCK			
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A
Profile Condition
Slope: 20 %
Limiting Factor: 10 "
☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FO S MA ING

Soil Series Name: RICKER
Drainage Class: WELL
Hydrologic Group: A

Observation Hole TB 48 ☐ Test Pit ☒ Boring

____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE	REDDISH BROWN	
	BEDROCK			
10				
20				
30				
40				
50				

Soil Classification: N/A
Profile Condition
Slope: 20 %
Limiting Factor: 4 "
☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: RICKER
Drainage Class: WELL
Hydrologic Group: A

Albert Frick
Site Evaluator /Soil Scientist Signature

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SE/CSS #

6/24/09
Date

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

Town, City, Plantation: HIGHLAND PLANTATION

Street, Road Subdivision: HIGHLAND WIND PROJECT

Owner's Name: HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 49 ☐ Test Pit ■ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE	STRONG BROWN	
20	REFUSAL (BEDROCK)			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 20 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

FOR SC M

Soil Series Name: SADDLEBACK

Drainage Class: WELL

Hydrologic Group: C/D

Observation Hole TB 50 ☐ Test Pit ■ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	SANDY LOAM	FRIABLE	OLIVE GRAY	COMMON DISTINCT
20				
30	REFUSAL			
40				
50				

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 8 "

■ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

Soil Series Name: NASKEAG

Drainage Class: POORLY

Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 51 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE		
	SANDY LOAM	FRIABLE		
10	BEDROCK			
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 6 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

F S MAPPING

Soil Series Name: RICKER

Drainage Class: WELL

Hydrologic Group: A

Observation Hole TB 52 ☐ Test Pit ■ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20	BEDROCK			
30				
40				
50				

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 20 "

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

Soil Series Name: SADDLEBACK

Drainage Class: WELL

Hydrologic Group: C/D

Albert Frick
Site Evaluator / Soil Scientist Signature

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SE/CSS #

6/24/09
Date

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

Town, City, Plantation: HIGHLAND PLANTATION

Street, Road Subdivision: HIGHLAND WIND PROJECT

Owner's Name: HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 53 ☒ Test Pit ☐ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
ORGANIC	LOOSE	DARK REDDISH BROWN	
SANDY LOAM	FRIABLE	GRAY	△△△ FREE WATER
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 6 "

☒ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FOR SC M

Soil Series Name: NASKEAG (VARIANT)

Drainage Class: POORLY

Hydrologic Group: C

Observation Hole TP 54 ☒ Test Pit ☐ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
PEAT	LOOSE	DARK REDDISH BROWN	
SANDY LOAM	FRIABLE	GRAY	
BEDROCK			

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 6 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: RICKER

Drainage Class: WELL

Hydrologic Group: A

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 55 ☐ Test Pit ☒ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
ORGANIC			
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 2 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FC SC MA NG

Soil Series Name: ROCK OUTCROP/RICKER

Drainage Class: WELL

Hydrologic Group: D/A

Observation Hole TP 56 ☒ Test Pit ☐ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
PEAT	LOOSE	DARK REDDISH BROWN	
SANDY LOAM	FRIABLE	GRAY	△△△ FREE WATER
BEDROCK			
			(FREE WATER 1 WEEK OF RAIN. RUNNING ON BEDROCK)

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 12 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: ABRAM

Drainage Class: EXCESSIVELY

Hydrologic Group: D

Albert Frick
Site Evaluator / Soil Scientist Signature

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Date

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 57 ☐ Test Pit ☒ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				△△△ FREE WATER
10	MUCKY PEAT	LOOSE		
20				
30				
40	LIMIT OF EXCAVATION			
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	3 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SC M

Soil Series Name:	Drainage Class:	Hydrologic Group:
WASKISH	VERY POORLY	D

Observation Hole TP 58 ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	PEAT	LOOSE	DARK REDDISH BROWN	
	SANDY LOAM	FRIABLE	GRAY	
10	BEDROCK			
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	6 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 59 ☐ Test Pit ☒ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	PEAT	LOOSE	DARK REDDISH BROWN	
10	SANDY LOAM	FRIABLE	GRAY	
	BEDROCK			
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	14 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

F S MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER/SADDLEBACK	WELL	A/C/D

Observation Hole TB 60 ☐ Test Pit ☒ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	BEDROCK			
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	4-6 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

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Site Evaluator / Soil Scientist Signature

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HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 61 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
PEAT	LOOSE	~~DARK REDDISH~~ BROWN	
SANDY LOAM	FRIABLE	GRAY	
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification N/A Profile Condition

Slope 8-20 %

Limiting Factor 4 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FOR S M

Soil Series Name: RICKER

Drainage Class: WELL

Hydrologic Group: A

Observation Hole TB 62 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	STRONG BROWN	
		LIGHT OLIVE BROWN	FEW FAINT
			COMMON DISTINCT
	SOMEWHAT FIRM		
REFUSAL (BEDROCK)			

Soil Classification N/A Profile Condition

Slope 8-20 %

Limiting Factor 16 "

☒ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

Soil Series Name: RAWSONVILLE (ATYPICAL)

Drainage Class: MODERATELY WELL

Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 63 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling

This makes me want to know more :)

OMITTED

FOR WASTEWATER DISPOSAL

Soil Classification N/A Profile Condition

Slope ____ %

Limiting Factor ____ "

☐ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

F S MAPPING

Soil Series Name:

Drainage Class:

Hydrologic Group:

Observation Hole TP 64 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
PEAT	LOOSE	~~DARK REDDISH~~ BROWN	
SANDY LOAM	FRIABLE	GRAY	
BEDROCK			

Soil Classification N/A Profile Condition

Slope 8-20 %

Limiting Factor 4 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: RICKER

Drainage Class: WELL

Hydrologic Group: A

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Site Evaluator /Soil Scientist Signature

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SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 65 ☐ Test Pit ■ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches): 0–50

Texture	Consistency	Color	Mottling
PEAT BOULDER BOULDER BOULDER			

LIMIT OF EXCAVATION

FOR WASTEWATER DISPOSAL →

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	+41 "	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ■ Pit Depth

FOR SC M S →

Soil Series Name:	Drainage Class:	Hydrologic Group:
MAHOOSUC	SOMEWHAT EXCESSIVELY	A

Observation Hole TP 66 ■ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches): 0–50

Texture	Consistency	Color	Mottling
		DARK BROWN	
		GRAY (ALBIC)	
SANDY LOAM	FRIABLE	STRONG BROWN	
			COMMON DISTINCT & ΔΔΔ FREE WATER

REFUSAL (BEDROCK)

(NOTE: 8.3" OF RAIN IN JUNE)

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	15 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE (VARIANT)	WELL	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 67 ■ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches): 0–50

Texture	Consistency	Color	Mottling
		GRAY	
FINE SANDY LOAM	FRIABLE	DARK YELLOWISH BROWN	
COBBLY SANDY LOAM			FEW, FAINT

REFUSAL (LARGE STONES/BEDROCK)

FOR WASTEWATER DISPOSAL →

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	16 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

F SC MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE (VARIANT)	MODERATLEY WELL	C

Observation Hole TP 68 ■ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches): 0–50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	YELLOWISH BROWN	
			ΔΔΔ FREE WATER

REFUSAL (BEDROCK)

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	18 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

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Site Evaluator/Soil Scientist Signature

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SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 69 ☐ Test Pit ■ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0	SANDY LOAM			
	BEDROCK			
10				
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A
Profile / Condition
Slope: 8-20 %
Limiting Factor: 4 "
☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

FOR SC M G

Soil Series Name: ABRAM
Drainage Class: EXCESSIVELY
Hydrologic Group: D

Observation Hole TP 70 ■ Test Pit ☐ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE	DARK BROWN	
			LIGHT YELLOWISH BROWN	
10	BEDROCK			
20				
30				
40				
50				

Soil Classification: N/A
Profile / Condition
Slope: 8-20 %
Limiting Factor: 9 "
☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

Soil Series Name: ABRAM
Drainage Class: EXCESSIVELY
Hydrologic Group: D

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 71 ■ Test Pit ☐ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE	DARK BROWN	
10			LIGHT OLIVE BROWN	COMMON DISTINCT
20	REFUSAL (BEDROCK)			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A
Profile / Condition
Slope: 3-8 %
Limiting Factor: 8 "
■ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

F(S(MAI ING

Soil Series Name: NASKEAG
Drainage Class: SOMEWHAT POORLY
Hydrologic Group: C

Observation Hole TB 72 ☐ Test Pit ■ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0	PEAT	LOOSE	BLACK	△△△ FREE WATER
10	SANDY LOAM	FRIABLE	GRAY	
20	REFUSAL (BEDROCK)			
30				
40				
50				

Soil Classification: N/A
Profile / Condition
Slope: 3-8 %
Limiting Factor: 0 "
■ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

Soil Series Name: NASKEAG
Drainage Class: POORLY
Hydrologic Group: C

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Site Evaluator / Soil Scientist Signature

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SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 73 ☒ Test Pit ☐ Boring

______" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			BLACK	
10	SANDY LOAM	FRIABLE	GRAY	△△△ FREE WATER
20	REFUSAL			
30				
40	NOTE: ALL ALONG SIDE SLOPE FROM TP 72 CROSS-DRAINAGE IS RECOMMENDED			
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	7 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SO MA

Soil Series Name:	Drainage Class:	Hydrologic Group:
NASKEAG	POORLY	C

Observation Hole TB 74 ☐ Test Pit ☒ Boring

______" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20				
30				
40	LIMIT OF EXCAVATION WELL-DRAINED INCLUSION ON RIDGELINE			
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	41 "	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☒ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
BERKSHIRE/SUNAPEE (INCLUSION)	WELL/MODERATLEY WELL	B

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 75 ☐ Test Pit ☒ Boring

______" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20				
30				
40	LIMIT OF EXCAVATION			
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	40+"	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FO SO MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
BERKSHIRE/SUNAPEE	WELL/MODERATLEY WELL	B

Observation Hole TP 76 ☒ Test Pit ☐ Boring

______" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE	YELLOWISH BROWN	△△△ FREE WATER (DUE TO EXCESSIVE RAIN IN JUNE 83")
10	REFUSAL (BEDROCK)			
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	15 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

Albert Frick	163/66	6/30/09
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SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 77 ☒ Test Pit ☐ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	ORGANIC		BLACK	
	BEDROCK			
10				
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 4 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FOR SO MA

Soil Series Name: RICKER

Drainage Class: WELL

Hydrologic Group: A

Observation Hole TP 78 ☒ Test Pit ☐ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
	PEAT	LOOSE	DARK REDDISH BROWN	
20				
	BEDROCK			
30				
40				
50				

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 26 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: RICKER

Drainage Class: WELL

Hydrologic Group: A

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 79 ☒ Test Pit ☐ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	ORGANIC HUMUS	LOOSE	DARK REDDISH BROWN	
			GRAY	
10				
	SANDY LOAM	FRIABLE	STRONG BROWN	
20				
30				
	BEDROCK			
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 30 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FO SC MAPPING

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

Observation Hole TB 80 ☐ Test Pit ☒ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	HUMUS	LOOSE	DARK REDDISH BROWN	
			GRAY	
10				
	SANDY LOAM	FRIABLE	STRONG BROWN	
20				
	BEDROCK			
30				
40				
50				

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 22 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

Albert Frick

Site Evaluator /Soil Scientist Signature

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SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 81 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
			DARK REDDISH BROWN	ΔΔΔ FREE WATER
10	PEAT	LOOSE	BLACK	
20				
30				
40				
		LIMIT OF EXCAVATION		
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	3-8 %	1 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SO M

Soil Series Name:	Drainage Class:	Hydrologic Group:
WASKISH	VERY POORLY	D

Observation Hole TB 82 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	FRIABLE	BLACK	
	SANDY LOAM		GRAY	
10	//	\\ BEDROCK	//	\\
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	8 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
ABRAM	EXCESSIVELY	D

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 83 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	SANDY LOAM	FRIABLE	YELLOWISH BROWN	
20	//	\\ BEDROCK	//	\\
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
2 N/A AIII Profile Condition	20 %	21 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FO S MA NG

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TP 84 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE	REDDISH BROWN	
10	//	\\ BEDROCK	//	\\
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	8 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Albert Frick
Site Evaluator /Soil Scientist Signature

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SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 85 ■ Test Pit ☐ Boring

____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
			GRAY	
10	SANDY LOAM	FRIABLE	STRONG BROWN	
20				
	BEDROCK	BEDROCK	BEDROCK	BEDROCK
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A — Profile / Condition

Slope: 8-20 %

Limiting Factor: 24"

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

FOR SC M G

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

Observation Hole TP 86 ■ Test Pit ☐ Boring

____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
			DARK BROWN	
10	SANDY LOAM	FRIABLE	STRONG BROWN	
20				
	BEDROCK	BEDROCK	BEDROCK	BEDROCK
30				
40				
50				

Soil Classification: N/A — Profile / Condition

Slope: 20 %

Limiting Factor: 22"

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 87 ■ Test Pit ☐ Boring

____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	PEAT	LOOSE	BLACK	
	SANDY LOAM		DARK BROWN	
	BEDROCK	BEDROCK	BEDROCK	BEDROCK
10				
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A — Profile / Condition

Slope: 20 %

Limiting Factor: 6"

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

F S MA ING

Soil Series Name: ABRAM

Drainage Class: EXCESSIVELY

Hydrologic Group: D

Observation Hole TP 88 ■ Test Pit ☐ Boring

____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	ORGANIC	LOOSE	REDDISH BROWN	
10	SANDY LOAM	FRIABLE	GRAY	
	BEDROCK	BEDROCK	BEDROCK	BEDROCK
20				
30				
40				
50				

Soil Classification: N/A — Profile / Condition

Slope: 20 %

Limiting Factor: 11"

☐ Ground Water
☐ Restrictive Layer
■ Bedrock
☐ Pit Depth

Soil Series Name: RICKER

Drainage Class: WELL

Hydrologic Group: A

Albert Frick — Site Evaluator / Soil Scientist Signature

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SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 89 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE	DARK BROWN	
	BEDROCK			
10				
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL →

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	2-8 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SO M →

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Observation Hole TP 90 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	PEAT	LOOSE	BLACK	
10	FINE SANDY LOAM	FRIABLE	OLIVE GRAY	
20				
	BEDROCK			
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	22 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 91 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE	DARK REDDISH BROWN	
10	SANDY LOAM	FRIABLE	DARK BROWN	
	BEDROCK			
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL →

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	12 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FC SC MA ING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
ABRAM	EXCESSIVELY	D

Observation Hole TB 92 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC			
	BEDROCK			
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	2 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Albert Frick

Site Evaluator/Soil Scientist Signature

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SE/CSS #

6/30/09

Date

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

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HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 93 ☒ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
ORGANIC			
SANDY LOAM	FRIABLE	DARK BROWN	
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	3 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SO M

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Observation Hole TB 94 ☐ Test Pit ☒ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
ORGANIC			
SANDY LOAM			△△△ FREE WATER
BEDROCK			(8.3" OF RAIN IN JUNE)

NOTE: INCLUSION

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	15 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
ABRAM (VARIANT)	EXCESSIVELY	D

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 95 ☐ Test Pit ☒ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE		
			FEW FAINT
REFUSAL (LARGE STONES/BEDROCK)			

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	26 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

F S MA NG

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TP 96 ☒ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
ORGANIC	LOOSE	DARK BROWN	
BEDROCK			

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	4 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Albert Frick

Site Evaluator / Soil Scientist Signature

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6/30/09

Date

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

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HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 97 ☐ Test Pit ☒ Boring

_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 – 10 – 20 – 30 – 40 – 50

Texture	Consistency	Color	Mottling
SANDY LOAM			
REFUSAL (LARGE STONES/BEDROCK)			

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	16 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

Observation Hole TP 98 ☒ Test Pit ☐ Boring

_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 – 10 – 20 – 30 – 40 – 50

Texture	Consistency	Color	Mottling
ORGANIC	LOOSE	DARK GRAYISH BROWN	
SANDY LOAM	FRIABLE	OLIVE GRAY	COMMON, DISTINCT △△△ FREE WATER
BEDROCK			

NOTE: AT TURBINE E-2

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	3-8 %	6 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
NASKEAG	POORLY	C

FOR WASTEWATER DISPOSAL

FOR SO M G

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 99 ☐ Test Pit ☒ Boring

_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 – 10 – 20 – 30 – 40 – 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK GRAYISH BROWN OLIVE	△△△ FREE WATER
REFUSAL (BEDROCK)			

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	3-8 %	2 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
NASKEAG	POORLY	C

Observation Hole TB 100 ☐ Test Pit ☒ Boring

_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 – 10 – 20 – 30 – 40 – 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN STRONG BROWN	FEW FAINT △△△ FREE WATER
BEDROCK			

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	3-8 %	22 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
NASKEAG	POORLY	C

FOR WASTEWATER DISPOSAL

FO SC MA G

Albert Frick
Site Evaluator / Soil Scientist Signature

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SE/CSS #

6/30/09
Date

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HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 101 ■ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0–50

Texture	Consistency	Color	Mottling
ORGANIC			
BEDROCK	BEDROCK	BEDROCK	BEDROCK

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	2 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SO M

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Observation Hole TP 102 ■ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0–50

Texture	Consistency	Color	Mottling
FINE SANDY LOAM	FRIABLE		
COARSE SANDY LOAM		LIGHT OLIVE GRAY	COMMON DISTINCT
			FREE WATER
BEDROCK	BEDROCK	BEDROCK	BEDROCK

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
2 N/A AIII Profile Condition	8-20 %	21 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE/HOGBACK	WELL	C/B

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 103 ■ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0–50

Texture	Consistency	Color	Mottling
ORGANIC		BLACK	
FINE SANDY LOAM	FRIABLE	STRONG BROWN	
		OLIVE GRAY	
BEDROCK	BEDROCK	BEDROCK	BEDROCK

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	12 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FO SC MA NG

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

Observation Hole TP 104 ■ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0–50

Texture	Consistency	Color	Mottling
ORGANIC		DARK REDDISH BROWN	
FINE SANDY LOAM	FRIABLE	GRAY (ALBIC)	
		STRONG BROWN	
BEDROCK	BEDROCK	BEDROCK	BEDROCK

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	20 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

Albert Frick
Site Evaluator /Soil Scientist Signature

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Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

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SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 105 ■ Test Pit ☐ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
ORGANIC			
FINE SANDY LOAM	FRIABLE	DARK YELLOWISH BROWN	
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	12 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SO M G

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

Observation Hole TB 106 ☐ Test Pit ■ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
		DARK BROWN	△△△
FINE SANDY LOAM	FRIABLE	LIGHT YELLOWISH BROWN	FREE WATER (ABNORMAL JUNE 8.3" OF RAIN)
		LIGHT OLIVE BROWN	COMMON DISTINCT
BEDROCK			

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	0 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
NASKEAG	POORLY	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 107 ■ Test Pit ☐ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
ORGANIC	FRIABLE	DARK REDDISH BROWN	
FINE SANDY LOAM		DARK BROWN	
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	12 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FC SC MA NG

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

Observation Hole TP 108 ■ Test Pit ☐ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
FINE SANDY LOAM	FRIABLE	GRAY (ALBIC)	
		STRONG BROWN	
BEDROCK			

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	22 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Albert Frick
Site Evaluator /Soil Scientist Signature

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7/1/09
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SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 109 ☐ Test Pit ☒ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0–22	FINE SANDY LOAM	FRIABLE	STRONG BROWN	
22	BEDROCK			

FOR WASTEWATER DISPOSAL →

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 22 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FOR SO M →

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

Observation Hole TP 110 ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0–3	FINE SANDY LOAM	FRIABLE	BLACK	
3–6			GRAY (ALBIC)	
6–25			STRONG BROWN	
15				ΔΔΔ FREE WATER (ATYPICAL JUNE 8.3")
25	BEDROCK			

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 25 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 111 ☐ Test Pit ☒ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0–21	FINE SANDY LOAM	FRIABLE		
2				ΔΔΔ FREE WATER
21	BEDROCK			

FOR WASTEWATER DISPOSAL →

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 2 "

☒ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FC SC MAP NG →

Soil Series Name: NASKEAG

Drainage Class: POORLY

Hydrologic Group: C

Observation Hole TP 112 ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0–4	FINE SANDY LOAM	FRIABLE	GRAY	
4–24			STRONG BROWN	
13				ΔΔΔ FREE WATER (ATYPICAL JUNE 8.3")
24	BEDROCK			

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 24 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

Albert Frick
Site Evaluator /Soil Scientist Signature

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ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

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SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 113 ☐ Test Pit ■ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	FINE SANDY LOAM	FRIABLE	STRONG BROWN	
20				
30	BEDROCK	BEDROCK	BEDROCK	BEDROCK
40				
50				

FOR WASTEWATER DISPOSAL →

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	29 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SO M G →

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TP 114 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC		BLACK	
	SANDY LOAM	FRIABLE	GRAY	
			OLIVE GRAY	
10	BEDROCK	BEDROCK	BEDROCK	BEDROCK
20				
30				
40				
50				

NOTE: FREE WATER ON BEDROCK ON DAY OF OBSERVATION DUE TO 8.33"+ OF RAIN IN JUNE

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	9 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
ABRAM	EXCESSIVELY	D

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 115 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM			
10	GRAVELLY SANDY LOAM	FRIABLE	DARK BROWN	
20	GRAVELLY LOAMY SAND	VERY FIRM	OLIVE	FEW FAINT
30				
40	LIMIT OF OBSERVATION	LIMIT OF OBSERVATION	LIMIT OF OBSERVATION	LIMIT OF OBSERVATION
50				

FOR WASTEWATER DISPOSAL →

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	18 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

F S MA NG →

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD/SKERRY	MODERATELY WELL	C

Observation Hole TB 116 ☐ Test Pit ■ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE	DARK BROWN	
20	COBBLY SANDY LOAM TO LOAMY SAND	FIRM (REFUSAL @ 21")	OLIVE	COMMON DISTINCT
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	21 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATLEY WELL	C

Albert Frick
Site Evaluator / Soil Scientist Signature

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ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 117 ☒ Test Pit ☐ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	HUMUS STONE COBBLE			
10	COBBLE COBBLE		DARK REDDISH BROWN	
20				
30		REFUSAL (BEDROCK)		
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	26 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

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Soil Series Name:	Drainage Class:	Hydrologic Group:
MAHOOSUC (VARIANT) RAWSONVILLE	SOMEWHAT EXCESSIVELY/WELL	A/C

Observation Hole TB 118 ☐ Test Pit ☒ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE	DARK REDDISH BROWN	
20			REFUSAL (BEDROCK)	
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	22 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 119 ☐ Test Pit ☒ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20				
30				
40		REFUSAL		
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	40 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FO SC MA NG

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TP 120 ☒ Test Pit ☐ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE	GRAY (ALBIC) DARK YELLOWISH BROWN	
10			LIGHT OLIVE BROWN REFUSAL	
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	14 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

Albert Frick	163/66	9/14/09
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ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

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SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 121 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	SANDY LOAM	FRIABLE		
10				
		REFUSAL		
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	11 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SOI MAI

Soil Series Name:	Drainage Class:	Hydrologic Group:
ABRAM	EXCESIVELY	D

Observation Hole TB 122 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	HUMUS	LOOSE		
		BEDROCK		
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	6 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER (INCLUSION)	WELL	A

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 123 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	HUMUS	LOOSE		
		BEDROCK		
10				
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	3 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FO SOI MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Observation Hole TB 124 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE	DARK REDDISH BROWN	
20		REFUSAL		
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	18 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

Albert Frick
Site Evaluator /Soil Scientist Signature

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SE/CSS #

9/14/09
Date

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
IGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 125 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE		
	BEDROCK			
10				
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A — Profile / Condition

Slope: 8-20 %

Limiting Factor: 5 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FOR SOI MA

Soil Series Name: ABRAM

Drainage Class: EXCESSIVELY

Hydrologic Group: D

Observation Hole TB 126 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20				
	REFUSAL (BEDROCK)			
30				
40				
50				

Soil Classification: N/A — Profile / Condition

Slope: 8-20 %

Limiting Factor: 22 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 127 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			GRAY (ALBIC)	
			DARK REDDISH BROWN	
10	LOAM	FRIABLE		
			LIGHT YELLOWISH BROWN	
20				
	REFUSAL (BEDROCK)			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A — Profile / Condition

Slope: 8-20 %

Limiting Factor: 27 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FO SOI MAPPING

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: A

Observation Hole TB 128 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	LOAM	FRIABLE		
10				
20				
	REFUSAL (BEDROCK)			
30				
40				
50				

Soil Classification: N/A — Profile / Condition

Slope: 8-20 %

Limiting Factor: 21 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

Albert Frick
Site Evaluator//Soil Scientist Signature

163/66
SE/CSS #

9/14/09
Date

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 129 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
SPHAGNUM PEAT	LOOSE		ΔΔΔ FREE WATER
SANDY LOAM	FRIABLE		
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	3-8 %	1 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SO MA

Soil Series Name:	Drainage Class:	Hydrologic Group:
NASKEAG	POORLY	C

Observation Hole TP 130 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE		
REFUSAL (BEDROCK)			

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	30 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 131 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
HUMUS	LOOSE		
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	6 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FO SO MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Observation Hole TP 132 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
		GRAY (ALBIC)	
LOAM	FRIABLE	DARK REDDISH BROWN	
		LIGHT YELLOWISH BROWN	
REFUSAL (BEDROCK)			

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	22 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Albert Frick
Site Evaluator /Soil Scientist Signature

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Date

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 133 ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	BOULDER			
20	STONE			
30	BOULDER			
40		LIMIT OF EXCAVATION		
50				

FOR WASTEWATER DISPOSAL →

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	"	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SO MA →

Soil Series Name:	Drainage Class:	Hydrologic Group:
MAHOOSUC	SOMEWAHT EXCESSIVELY	A

Observation Hole TB 134 ☐ Test Pit ☒ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20				
30		REFUSAL (BEDROCK)		
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	28 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 135 ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE	DARK REDDISH BROWN	
10	GRAVELLY SANDY LOAM		LIGHT YELLOWISH BROWN	
20		FIRM		
		REFUSAL (LARGE STONES/BEDROCK)		
30				
40				
50				

FOR WASTEWATER DISPOSAL →

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	22 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FO SO MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TB 136 ☐ Test Pit ☒ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	GRAVELLY SANDY LOAM	FRIABLE		
20				
30		REFUSAL (LARGE STONES/BEDROCK)		
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	29 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Albert Frick

Site Evaluator / Soil Scientist Signature

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SE/CSS #

9/14/09

Date

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 137 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK REDDISH BROWN	
		LIGHT OLIVE BROWN	
GRAVELLY SANDY LOAM	FIRM	OLIVE	FEW FAINT
GRAVELLY LOAMY SAND	(LIMIT OF EXCAVATION @ 80")		

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 15 "

■ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

FOR SO MA

Soil Series Name: DIXFIELD

Drainage Class: MODERATELY WELL

Hydrologic Group: C

Observation Hole TP 138 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	
COBBLY GRAVELLY LOAMY SAND	FIRM	LIGHT OLIVE BROWN	FEW FAINT
			COMMON DISTINCT

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 15 "

■ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

Soil Series Name: SKERRY (INCLUSION/VARIANT)

Drainage Class: MODERATELY WELL

Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 139 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
COBBLY LOAMY SAND	FRIABLE	LIGHT YELLOW BROWN	
	LIMIT OF EXCAVATION		

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: +41 "

☐ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

FO SO MAPPING

Soil Series Name: HERMON

Drainage Class: SOMEWHAT EXCESSIVELY

Hydrologic Group: A

Observation Hole TP 140 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	
		OLIVE BROWN	FEW, FAINT
GRAVELLY SANDY LOAM	FIRM	OLIVE	COMMON, DISTINCT
	LIMIT OF EXCAVATION		

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 12 "

■ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

Soil Series Name: COLONEL

Drainage Class: SOMEWHAT POORLY

Hydrologic Group: C

Albert Frick

Site Evaluator / Soil Scientist Signature

163/66

SE/CSS #

9/14/09 & 9/15/09

Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 141 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	SANDY LOAM	FRIABLE		
10				
				FEW, FAINT
20				
	REFUSAL IN BASIL TILL			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)
Slope: 20 %
Limiting Factor: 15 "
☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SO MA

Soil Series Name: DIXFIELD
Drainage Class: MODERATELY WELL
Hydrologic Group: C

Observation Hole TP 142 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	SANDY LOAM		GRAY (ALBIC)	
10		FRIABLE		
	GRAVELLY SANDY LOAM			FEW, FAINT
20			LIGHT OLIVE BROWN	
30				
40				
	REFUSAL IN LARGE ROCK OR BEDROCK			
50				

Soil Classification: N/A (Profile / Condition)
Slope: 20 %
Limiting Factor: 15 "
☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name: DIXFIELD
Drainage Class: MODERATELY WELL
Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 143 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	SANDY LOAM	FRIABLE	DARK BROWN	
10				
			LIGHT YELLOW BROWN	FEW, FAINT
20			OLIVE BROWN	
	REFUSAL ON LARGE BOULDER OR BASIL TILL			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)
Slope: 8-20 %
Limiting Factor: 15 "
☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FO SO MAPPING

Soil Series Name: DIXFIELD
Drainage Class: MODERATELY WELL
Hydrologic Group: C

Observation Hole TP 144 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	SANDY LOAM	FRIABLE	DARK BROWN	
10			DARK YELLOW BROWN	
				FEW, FAINT
20				
		FIRM	OLIVE	COMMON, DISTINCT
30				
	REFUSAL IN BASIL TILL			
40				
50				

Soil Classification: N/A (Profile / Condition)
Slope: 8-20 %
Limiting Factor: 15 "
☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name: DIXFIELD
Drainage Class: MODERATELY WELL
Hydrologic Group: C

Albert Frick
Site Evaluator / Soil Scientist Signature

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SE/CSS #

9/15/09
Date

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 145 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0			DARK BROWN	
	SANDY LOAM	FRIABLE	DARK OLIVE BROWN	
10			OLIVE BROWN	COMMON, DISTINCT
		FIRM		
20		VERY FIRM (REFUSAL)		
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	8 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SO MA

Soil Series Name:	Drainage Class:	Hydrologic Group:
COLONEL	SOMEWHAT POORLY	C

Observation Hole TP 146 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0	COBBLE			
	COBBLE	LOOSE	REDDISH BROWN	
10	COBBLE			FEW, FAINT
20	SANDY LOAM	FRIABLE	LIGHT OLIVE BROWN	
			OLIVE	COMMON, DISTINCT
30		FIRM		
40	LIMIT OF EXCAVATION			
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	8 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
COLONEL (VARIANT) (VERY STONY)	SOMEWHAT POORLY	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 147 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0			LIGHT GRAY (ALBIC)	
			DARK YELLOW BROWN	
10	LOAM	FRIABLE	LIGHT YELLOW BROWN	
20			OLIVE BROWN	
30	BEDROCK			
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	31 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FO SO MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TB 148 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0				
	LOAM	FRIABLE	DARK REDDISH BROWN	
10				
20	BEDROCK			
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	18 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

Albert Frick
Site Evaluator / Soil Scientist Signature

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SE/CSS #

9/15/09
Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	STANTEC (BAYROOT, LLC)

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 149 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE	DARK BROWN DARK REDDISH BROWN	
10				FEW, FAINT
20			LIGHT OLIVE BROWN	
30	REFUSAL ON LARGE BOULDER			
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 16 "

■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOI MA

Soil Series Name: DIXFIELD

Drainage Class: MODERATELY WELL

Hydrologic Group: C

Observation Hole TP 150 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE	DARK BROWN (10 YR 3/2)	
10		FIRM	LIGHT OLIVE BROWN	COMMON, DISTINCT
20	LIMIT OF EXCAVATION			
30				
40				
50				

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 12 "

■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name: COLONEL

Drainage Class: SOMEWHAT POORLY

Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 151 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK REDDISH BROWN	
10	LOAMY SAND	FRIABLE	LIGHT YELLOW BROWN	
20	COBBLY SANDY LOAM AND LOAMY SAND	FIRM	PALE OLIVE	FEW, FAINT COMMON, DISTINCT
30				
40				
50		LIMIT OF EXCAVATION @72"		

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: ____ %

Limiting Factor: 18 "

■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SO MAP

Soil Series Name: DIXFIELD/SKERRY

Drainage Class: MODERATELY WELL

Hydrologic Group: C

Observation Hole TP 152 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE	DARK BROWN LIGHT OLIVE BROWN	
10	LOAMY SAND			FEW, FAINT
20	COBBLY SANDY LOAM AND LOAMY SAND	FIRM	OLIVE BROWN	COMMON, DISTINCT
30				
40				
50		LIMIT OF EXCAVATION		

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 15 "

■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name: SKERRY /DIXFIELD (INCLUSION)

Drainage Class: MODERATELY WELL

Hydrologic Group: C

Albert Frick
Site Evaluator /Soil Scientist Signature

163/66
SE/CSS *

9/15/09
Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 153 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	SANDY LOAM	FRIABLE	GRAY (ALBIC)	
10			STRONG BROWN	
	COBBLY LOAMY SAND AND SANDY LOAM			FEW, FAINT
20		FIRM	OLIVE	COMMON DISTINCT
30				
40				
50		LIMIT OF EXCAVATION		

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	15 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SO MA

Soil Series Name:	Drainage Class:	Hydrologic Group:
SKERRY (INCLUSION) (IN DIXFIELD UNIT)	MODERATELY WELL	C

Observation Hole TP 154 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	SANDY LOAM			
10				FEW, FAINT
	COBBLY SANDY LOAM AND LOAMY SAND			COMMON DISTINCT
20				
30				
40				
50		LIMIT OF EXCAVATION @79"		

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	8-12 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
WESTBURY / COLONEL (INCLUSION)	SOMEWHAT POORLY	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 155 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			REDDISH GRAY (ALBIC)	
	SANDY LOAM	FRIABLE		FEW, FAINT
10			OLIVE GRAY	COMMON, DISTINCT
	REFUSAL IN LARGE BOULDER			
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	8 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FC SC MAF ING

Soil Series Name:	Drainage Class:	Hydrologic Group:
COLONEL	SOMEWHAT POORLY	C

Observation Hole TP 156 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	SANDY LOAM	FRIABLE	DARK BROWN	FEW, FAINT
10	COBBLY LOAMY SAND TO SANDY LOAM	FIRM	OLIVE	COMMON, DISTINCT
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	<8 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
COLONEL (VARIANT)	SOMEWHAT POORLY	C

Albert Frick
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9/15/09
Date

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 157 ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
		GRAY (ALBIC)	
LOAM	FRIABLE	DARK YELLOWISH BROWN	
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 12 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

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Soil Series Name: HOGBACK

Drainage Class: WELL

Hydrologic Group: B

Observation Hole TB 158 ☐ Test Pit ☒ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK YELLOWISH BROWN	
BEDROCK			

Soil Classification: 2 N/A AII (Profile / Condition)

Slope: 20 %

Limiting Factor: 12 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: HOGBACK

Drainage Class: WELL

Hydrologic Group: B

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 159 ☐ Test Pit ☒ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK YELLOWISH BROWN	
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 27 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FO
SC
MAPPING

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

Observation Hole TP 160 ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
HUMUS			
LOAM	FRIABLE	DARK BROWN	
BEDROCK			

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 3-6 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: RICKER

Drainage Class: WELL

Hydrologic Group: A

Albert Frick
Site Evaluator / Soil Scientist Signature

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9/21/09
Date

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 161 ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
LOAM	FRIABLE		
		BEDROCK	

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	27 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

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Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TP 162 ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
ORGANIC			
LOAM	FRIABLE	DARK BROWN	
		BEDROCK	

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	12 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK/ABRAM	WELL/EXCESSIVELY	B/D

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 163 ☐ Test Pit ☒ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
ORGANIC	LOOSE		
		BEDROCK	

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	3 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FO SC MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Observation Hole TB 164 ☐ Test Pit ☒ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
LOAM	FRIABLE		
		BEDROCK	

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	34 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

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Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 165 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
ORGANIC	LOOSE	DARK BROWN	
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	3-15 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SO MA

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Observation Hole TP 166 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
ORGANIC		BLACK	
	FRIABLE		
LOAM		GRAY	
BEDROCK			

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	14 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
ABRAM/HOGBACK	EXCESSIVELY/WELL	D/B

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 167 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
ORGANIC	LOOSE	DARK BROWN	
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	23 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FC SC MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Observation Hole TP 168 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
ORGANIC	LOOSE	DARK REDDISH BROWN	
LOAM		GRAY	
BEDROCK			

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	6 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

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Town, City, Plantation	Street, Road Subdivision	Owner's Name
IGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 169 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
ORGANIC	LOOSE	REDDISH BROWN	
BEDROCK			

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	3 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR WASTEWATER DISPOSAL

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

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Observation Hole TP 170 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
ORGANIC	LOOSE	DARK REDDISH BROWN	
LOAM		GRAY	
BEDROCK			

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	8 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 171 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
ORGANIC			
BEDROCK			

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	3 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR WASTEWATER DISPOSAL

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

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Observation Hole TB 172 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE		
BEDROCK			

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	14 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

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Site Evaluator /Soil Scientist Signature	SE/CSS #	Date

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 173 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC		DARK REDDISH BROWN	
	FINE SANDY LOAM	FRIABLE	GRAY	
		BEDROCK		
10				
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	5 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SO MA

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Observation Hole TP 174 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20			BEDROCK	
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	20 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 175 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	ORGANIC			
10		BEDROCK		
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	10 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

F SO MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Observation Hole TB 176 ☐ Test Pit ■ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	LOAM			
10				
			BEDROCK	
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	13 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

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Site Evaluator /Soil Scientist Signature	SE/CSS #	Date

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

Town, City, Plantation: HIGHLAND PLANTATION
Street, Road Subdivision: HIGHLAND WIND PROJECT
Owner's Name: HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 177 ☒ Test Pit ☐ Boring
_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	LOAM	FRIABLE	DARK REDDISH BROWN	
20	BEDROCK			
30				
40				
50				

FOR WASTEWATER DISPOSAL
Soil Classification: N/A
Profile / Condition
Slope: 20 %
Limiting Factor: 20 "
☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FOR SO MA
Soil Series Name: HOGBACK/RAWSONVILLE
Drainage Class: WELL
Hydrologic Group: B/C

Observation Hole TB 178 ☐ Test Pit ☒ Boring
_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	LOAM	FRIABLE	DARK REDDISH BROWN	
20	BEDROCK			
30				
40				
50				

Soil Classification: N/A
Profile / Condition
Slope: 20 %
Limiting Factor: 22 "
☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: RAWSONVILLE
Drainage Class: WELL
Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 179 ☒ Test Pit ☐ Boring
_____ " Depth of Organic Horizon Above Mineral Soil

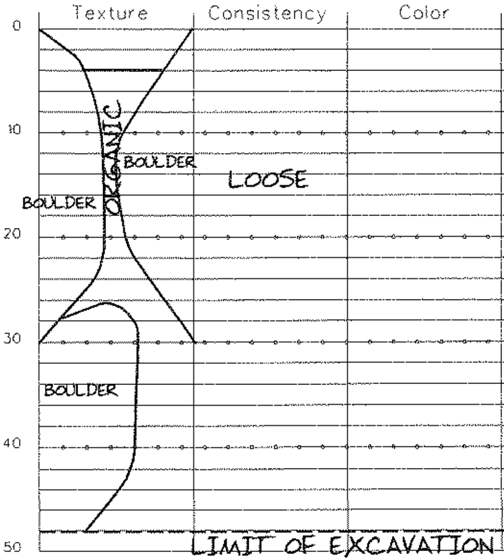
DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	FINE SANDY LOAM	FRIABLE	DARK YELLOWISH BROWN	
20				
30	BEDROCK			
40				
50				

FOR WASTEWATER DISPOSAL
Soil Classification: N/A
Profile / Condition
Slope: 20 %
Limiting Factor: 27 "
☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FO SO MAPPING
Soil Series Name: RAWSONVILLE
Drainage Class: WELL
Hydrologic Group: C

Observation Hole TP 180 ☒ Test Pit ☐ Boring
_____ " Depth of Organic Horizon Above Mineral Soil

Texture | Consistency | Color | Mottling
DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 10 20 30 40 50



Soil Classification: N/A
Profile / Condition
Slope: 20 %
Limiting Factor: ____ "
☐ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

Soil Series Name: MAHOOSUC
Drainage Class: SOMEWHAT EXCESSIVELY
Hydrologic Group: A

Albert Frick
Site Evaluator / Soil Scientist Signature
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Date 9/21/09

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 181 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	FINE SANDY LOAM	FRIABLE		
20				
30	BEDROCK	BEDROCK	BEDROCK	BEDROCK
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	31 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SO MA

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TP 182 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	LOAM	FRIABLE		
20				FEW FAINT
	REFUSAL (LARGE STONES/BEDROCK)	REFUSAL (LARGE STONES/BEDROCK)	REFUSAL (LARGE STONES/BEDROCK)	REFUSAL (LARGE STONES/BEDROCK)
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	18 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE/DIXFIELD	WELL/MODERATELY WELL	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 183 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			GRAY (ALBIC)	
10	LOAM	FRIABLE	DARK YELLOWISH BROWN	
20			LIGHT YELLOWISH BROWN	
30	BEDROCK	BEDROCK	BEDROCK	BEDROCK
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	31 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

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Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TB 184 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	LOAM	FRIABLE		
20	BEDROCK	BEDROCK	BEDROCK	BEDROCK
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	21 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE/HOGBACK	WELL	C/B

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Site Evaluator / Soil Scientist Signature	SE/CSS #	Date

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 185 ☐ Test Pit ☒ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0–21	LOAM	FRIABLE		
21–	BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile / Condition	8-20 %	21 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SO MA

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE/HOGBACK	WELL	C/B

Observation Hole TP 186 ☒ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0–13	LOAM	FRIABLE	DARK BROWN	
13–	BEDROCK			

Soil Classification	Slope	Limiting Factor	
N/A Profile / Condition	8-20 %	13 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK/ABRAM	WELL/EXCESSIVELY	B/D

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 187 ☒ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0–6	LOAM	FRIABLE		
6–	BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile / Condition	8-20 %	6 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

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Soil Series Name:	Drainage Class:	Hydrologic Group:
ABRAM	EXCESSIVELY	D

Observation Hole TP 188 ☒ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0–10	ORGANIC	LOOSE	DARK REDDISH BROWN	
10–	BEDROCK			

Soil Classification	Slope	Limiting Factor	
N/A Profile / Condition	20 %	10 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Albert Frick
Site Evaluator / Soil Scientist Signature

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SE/CSS #

9/21 & 9/23/09
Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

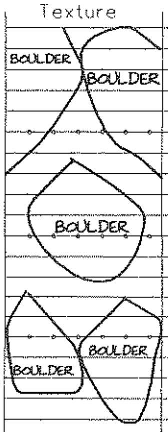
Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 189 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)



	Texture	Consistency	Color	Mottling
0	BOULDER BOULDER			
10	BOULDER	LOOSE		
20				
30	BOULDER BOULDER			
40	BEDROCK	BEDROCK	BEDROCK	BEDROCK
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	40 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SO MA

Soil Series Name:	Drainage Class:	Hydrologic Group:
MAHOOSUC	SOMEWHAT EXCESSIVELY	A

Observation Hole TB 190 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0				
10	LOAM	FRIABLE		
20				
30	BEDROCK	BEDROCK	BEDROCK	BEDROCK
40	NOTE: TB IS ON CLIFF-LIKE LANDFORM			
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	30 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 191 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	LOAM	FRIABLE	YELLOWISH BROWN	
20	BEDROCK	BEDROCK	BEDROCK	BEDROCK
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	26 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FO SC MA

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TP 192 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0	ORGANIC BEDROCK	BEDROCK	BEDROCK	BEDROCK
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	3 "	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Albert Frick
Site Evaluator / Soil Scientist Signature

163/66
SE/CSS #

9/23/09
Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 193 ☒ Test Pit ☐ Boring

______" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	HUMUS	LOOSE	DARK BROWN	
	SANDY LOAM	FRIABLE	GRAY	
10	BEDROCK			
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	7 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SOILS MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	A

Observation Hole TB 194 ☐ Test Pit ☒ Boring

______" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	LOAM	FRIABLE		
10				
	BEDROCK			
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	13 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 195 ☐ Test Pit ☒ Boring

______" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
	LOAM	FRIABLE		
20				
30				
40				
	LIMIT OF EXCAVATION			
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	"	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
BERKSHIRE (INCLUSION)	WELL	B

Observation Hole TP 196 ☒ Test Pit ☐ Boring

______" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC		DARK BROWN	
10	LOAM	FRIABLE	GRAY (ALBIC)	
			YELLOWISH BROWN	
20				
30	BEDROCK			
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	27 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Albert Frick
Site Evaluator / Soil Scientist Signature

163/66
SE/CSS #

9/23/09
Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 197 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
ORGANIC	LOOSE		
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 4 "

☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SOILS MAPPING

Soil Series Name: RICKER

Drainage Class: WELL

Hydrologic Group: A

Observation Hole TB 198 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
GRAVELLY LOAM	FRIABLE	GRAY	
		YELLOWISH BROWN	
		LIGHT BROWN	
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 31 "

☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SOILS MAPPING

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 199 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
ORGANIC	LOOSE		
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 2 "

☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SOILS MAPPING

Soil Series Name: RICKER

Drainage Class: WELL

Hydrologic Group: A

Observation Hole TP 200 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
ORGANIC	LOOSE	BLACK	
LOAM	FRIABLE	BLACK	
			COMMON DISTINCT
			△△△ FREE WATER
BEDROCK			

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 20 %

Limiting Factor: 30 "

☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SOILS MAPPING

Soil Series Name: RAWSONVILLE (ATYPICAL) OXYAQUIC

Drainage Class: WELL

Hydrologic Group: C

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS #

9/23/09 — Date

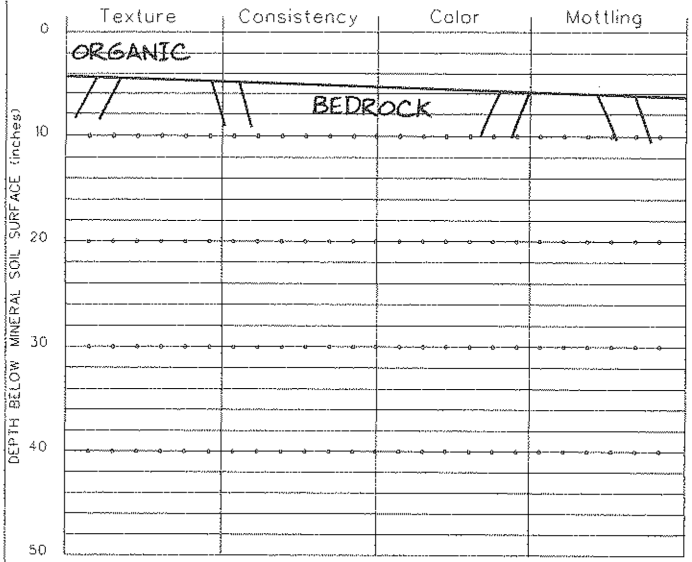
ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 201 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil



FOR WASTEWATER DISPOSAL

Soil Classification: N/A
Profile Condition

Slope: 20 %

Limiting Factor: 4-6 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FOR SOILS MAPPING

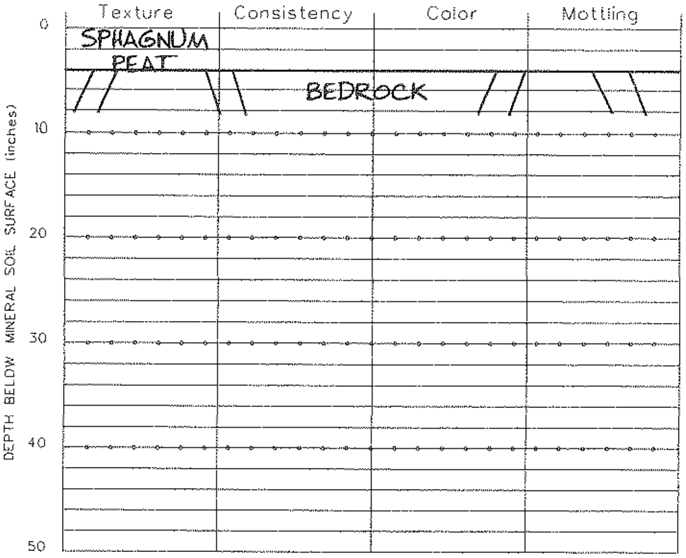
Soil Series Name: RICKER

Drainage Class: WELL

Hydrologic Group: A

Observation Hole TB 202 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil



Soil Classification: N/A
Profile Condition

Slope: 8-20 %

Limiting Factor: 4 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: RICKER

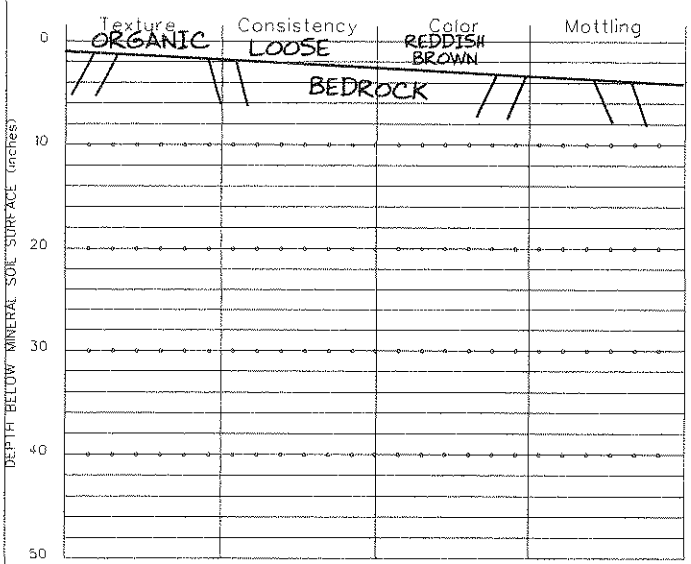
Drainage Class: WELL

Hydrologic Group: A

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 203 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil



FOR WASTEWATER DISPOSAL

Soil Classification: N/A
Profile Condition

Slope: 20 %

Limiting Factor: 1-4 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

FOR SOILS MAPPING

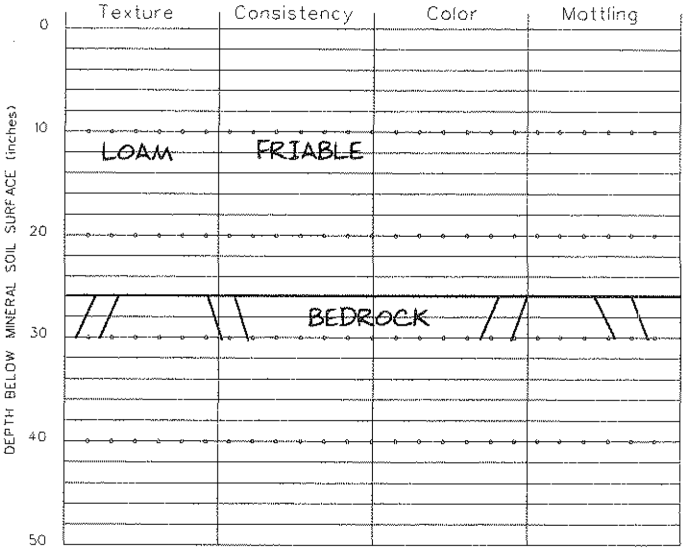
Soil Series Name: RICKER

Drainage Class: WELL

Hydrologic Group: A

Observation Hole TB 204 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil



Soil Classification: N/A
Profile Condition

Slope: 8-20 %

Limiting Factor: 26 "

☐ Ground Water
☐ Restrictive Layer
☒ Bedrock
☐ Pit Depth

Soil Series Name: RAWSONVILLE

Drainage Class: WELL

Hydrologic Group: C

Albert Frick

Site Evaluator / Soil Scientist Signature

163/66
SE/CSS #

9/23/09
Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 205 ☐ Test Pit ■ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 – 50

Texture	Consistency	Color	Mottling
ORGANIC		BLACK	
		GRAY	
LOAM	FRIABLE	LIGHT OLIVE BROWN	
BEDROCK			

Soil Classification	Slope	Limiting Factor	
N/A Profile / Condition	8-20 %	27 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR WASTEWATER DISPOSAL

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE (VARIANT) (OXYAQUIC)	WELL	C

FOR SOILS MAPPING

Observation Hole TB 206 ☐ Test Pit ■ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 – 50

Texture	Consistency	Color	Mottling
GRAVELLY SANDY LOAM	FRIABLE	GRAY	
		STRONG BROWN	
		YELLOWISH BROWN	
REFUSAL (LARGE STONES)			

Soil Classification	Slope	Limiting Factor	
N/A Profile / Condition	8-20 %	32 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATELY WELL	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 207 ☐ Test Pit ■ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 – 50

Texture	Consistency	Color	Mottling
GRAVELLY SANDY LOAM	FRIABLE	STRONG BROWN	
		YELLOWISH BROWN	
REFUSAL (LARGE STONES)			

Soil Classification	Slope	Limiting Factor	
N/A Profile / Condition	8-20 %	22 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR WASTEWATER DISPOSAL

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATELY WELL	C

FOR SOILS MAPPING

Observation Hole TB 208 ☐ Test Pit ■ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 – 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	GRAY (ALBIC)	
		STRONG BROWN	
GRAVELLY SANDY LOAM		DARK YELLOWISH BROWN	FEW, FAINT
REFUSAL (LARGE STONES)			

Soil Classification	Slope	Limiting Factor	
N/A Profile / Condition	8-20 %	18 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATELY WELL	C

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS #

9/23/09 — Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 209 ■ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	LOAM	FRIABLE	DARK BROWN	
10			BLACK	
			DARK BROWN	FEW FAINT
20	GRAVELLY LOAMY SAND	FIRM	OLIVE GRAY	COMMON DISTINCT
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 12 "

■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING

Soil Series Name: COLONEL (VARIANT) OXYAQUIC

Drainage Class: SOMEWHAT POORLY

Hydrologic Group: C

Observation Hole TP 210 ■ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM WITH WOOD DEBRIS	FRIABLE	DARK BROWN	
20			LIGHT OLIVE BROWN	FEW, FAINT
30			OLIVE BROWN	
40	LIMIT OF EXCAVATION			
50				

NOTE: PORTION OF SITE PREVIOUSLY USED AS STAGING AREA FOR TIMBER HARVESTING

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 20 "

■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING

Soil Series Name: DIXFIELD

Drainage Class: MODERATLEY WELL

Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 211 ■ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE	VERY DARK GRAY (10YR 3/1)	
10				
20	REFUSAL ON LARGE BOULDER			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 18 "

☐ Ground Water ■ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING

Soil Series Name: DIXFIELD (ALTERED)

Drainage Class: MODERATLEY WELL

Hydrologic Group: C

Observation Hole TP 212 ■ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		VERY DARK GRAY (10YR 3/1)	
10	COBBLY SANDY LOAM	FRIABLE		ΔΔΔ FREE WATER
20				
30	REFUSAL ON LARGE BOULDER			
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 8 "

■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING

Soil Series Name: COLONEL

Drainage Class: SOMEWHAT POORLY

Hydrologic Group: C

Albert Frick
Site Evaluator / Soil Scientist Signature

163/66
SE/CSS #

10/13/09
Date

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 213 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	SANDY LOAM		DARK BROWN	
10		FRIABLE	STRONG BROWN	
				FEW, FAINT
20	REFUSAL ON LARGE STONE			
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile / Condition	8-20 %	18 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATELY WELL	C

Observation Hole TP 214 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	SANDY LOAM		DARK BROWN	
10		FRIABLE	STRONG BROWN	
20				
		FIRM	LIGHT YELLOW BROWN	
30	REFUSAL ON LARGE BOULDER			
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile / Condition	8-20 %	28 "	☐ Ground Water ■ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATELY WELL	C

OR
ASTEWATER
ISPOSAL

OR
OILS
APPING

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 215 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
	COBBLY SANDY LOAM	FRIABLE	DARK BROWN	
10			STRONG BROWN	
		FIRM		FEW, FAINT
20	REFUSAL ON LARGE BOULDER			
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
3 / C Profile / Condition	8-20 %	15 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATELY WELL	C

Observation Hole TP 216 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK GRAYISH BROWN	
10	COBBLY SANDY LOAM	FRIABLE	DARK BROWN 10 YR 3/3	FEW, FAINT
20				
	SANDY LOAM	FIRM	OLIVE BROWN 2.5 Y 4/3	COMMON, DISTINCT
30				
40				
50	LIMIT OF EXCAVATION			

Soil Classification	Slope	Limiting Factor	
N/A Profile / Condition	20 %	15 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATELY WELL	C

OR
ASTEWATER
ISPOSAL

OR
OILS
APPIN

Albert Frick
Site Evaluator / Soil Scientist Signature

163/66
SE/CSS #

10/13/09
Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 217 ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 – 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	
		STRONG BROWN	
COBBLY SANDY LOAM		LIGHT YELLOW BROWN	FEW, FAINT
	FIRM	OLIVE BROWN 2.5 Y 4/3	COMMON, DISTINCT

LIMIT OF EXCAVATION @ 80"

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	26 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATELY WELL	C

Observation Hole TP 218 ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 – 50

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK BROWN	
SANDY LOAM		DARK YELLOW BROWN	
		OLIVE BROWN	FEW, FAINT
	FIRM		COMMON, DISTINCT

REFUSAL ON LARGE BOULDER

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	24 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATELY WELL	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 219 ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 – 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK GRAY	
			COMMON, DISTINCT
	FIRM	OLIVE GRAY	△△△ FREE WATER

LIMIT OF EXCAVATION

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	7 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
PILLSBURY	POORLY	C

Observation Hole TP 220 ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 – 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK GRAY (ALBIC)	
		DARK YELLOW BROWN	
	FIRM	LIGHT OLIVE BROWN	FEW, FAINT

LIMIT OF EXCAVATION

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	12 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
COLONEL	SOMEWHAT POORLY	C

OR
ASTEWATER
ISPOSAL

OR
SOILS
APPING

Albert Frick
Site Evaluator / Soil Scientist Signature

163/66
SE/CSS #

10/13/09
Date

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 221 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0–50

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK GRAY (ALBIC)	
COBBLY GRAVELLY LOAMY SAND	FRIABLE	STRONG BROWN	
SANDY LOAM	FIRM	YELLOW BROWN	FEW, FAINT

LIMIT OF EXCAVATION

OR VASTEWATER ISPOSAL

Soil Classification: N/A (Profile / Condition) | Slope: 8-20 % | Limiting Factor: 16 " | ■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

OR SOILS IAPPING

Soil Series Name: DIXFIELD/SKERRY | Drainage Class: MODERATELY WELL | Hydrologic Group: C

Observation Hole TP 222 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0–50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	GRAY	
		STRONG BROWN	
		YELLOW BROWN	
	FIRM		FEW, FAINT

Soil Classification: N/A (Profile / Condition) | Slope: 8-20 % | Limiting Factor: 16 " | ■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name: DIXFIELD | Drainage Class: MODERATELY WELL | Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 223 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0–50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK YELLOW BROWN	
			FEW, FAINT
GRAVELLY SANDY LOAM	VERY FIRM	OLIVE BROWN	COMMON, DISTINCT
SANDY LOAM		OLIVE	

OR ASTEWATER ISPOSAL

Soil Classification: N/A (Profile / Condition) | Slope: 8-20 % | Limiting Factor: 18 " | ■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

OR SOILS IAPPIN

Soil Series Name: DIXFIELD | Drainage Class: MODERATELY WELL | Hydrologic Group: C

Observation Hole TP 224 ■ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0–50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	
		STRONG BROWN	
		LIGHT OLIVE BROWN	FEW, FAINT
			COMMON, DISTINCT

Soil Classification: N/A (Profile / Condition) | Slope: 8-20 % | Limiting Factor: 15 " | ■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name: DIXFIELD | Drainage Class: MODERATELY WELL | Hydrologic Group: C

Albert Frick

Site Evaluator / Soil Scientist Signature

SE/CSS # 163/66

Date 10/13/09

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 225 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
SANDY LOAM		DARK GRAY (ALBIC)	
	FRIABLE	DARK YELLOW BROWN	FEW, FAINT
	FIRM	LIGHT OLIVE BROWN	COMMON, DISTINCT
	LIMIT OF	EXCAVATION	

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	18 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATELY WELL	C

Observation Hole TB 226 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK GRAY	
		DARK YELLOW BROWN	
		LIGHT OLIVE BROWN	FEW, FAINT
	FIRM	OLIVE	COMMON, DISTINCT
	LIMIT OF	EXCAVATION	

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	25 %	18 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATELY WELL	C

OR
ASTEWATER
ISPOSAL

OR
OILS
IAPPING

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 227 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE		FEW, FAINT
	FIRM		COMMON, DISTINCT
	LIMIT OF	EXCAVATION	

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	6 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
PILLSBURY	POORLY	C

Observation Hole TP 228 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches) 0 10 20 30 40 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN 10 YR 3/3	
		LIGHT OLIVE BROWN	FEW, FAINT
	FIRM	OLIVE	COMMON, DISTINCT
LIMIT OF	EXCAVATION		

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	13 "	☒ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
COLONEL	SOMEWHAT POORLY	C

OR
ASTEWATER
SPOSAL

OR
OILS
APPIN

Albert Frick
Site Evaluator /Soil Scientist Signature

163/66
SE/CSS #

10/13/09
Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation: HIGHLAND PLANTATION

Street, Road Subdivision: HIGHLAND WIND PROJECT

Owner's Name: HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 229 ■ Test Pit ☐ Boring

____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
LOAM		OLIVE BROWN 25 YR 4/3	
SANDY LOAM	FRIABLE	LIGHT OLIVE BROWN 25 YR 5/4	
FINE SAND			COMMON, DISTINCT
GRAVEL			

Soil Classification: N/A (Profile / Condition)

Slope: 0-3 %

Limiting Factor: 22 "

■ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

Soil Series Name: CORNISH

Drainage Class: SOMEWHAT POORLY

Hydrologic Group: C

Observation Hole TP 230 ■ Test Pit ☐ Boring

____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
SANDY LOAM		VERY DARK BROWN 10YR 3/2	
GRAVELLY SANDY LOAM	FRIABLE	DARK GRAYISH BROWN	COMMON, DISTINCT
	FIRM	DARK GRAYISH BROWN 10YR 4/2	

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 12 "

■ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

Soil Series Name: COLONEL

Drainage Class: SOMEWHAT POORLY

Hydrologic Group: C

OR
ASTEWATER
ISPOSAL

OR
OILS
APPING

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 231 ■ Test Pit ☐ Boring

____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
SANDY LOAM		VERY DARK BROWN (10YR 3/1)	
		LIGHT GRAY (10YR 7/1)	
COBBLY SANDY LOAM	FRIABLE	DARK REDDISH BROWN 5Y 3/4	
	FIRM	OLIVE BROWN 25 Y 4/3	
	LIMIT OF	EXCAVATION	

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 20 "

☐ Ground Water
■ Restrictive Layer
☐ Bedrock
☐ Pit Depth

Soil Series Name: MARLOW

Drainage Class: WELL

Hydrologic Group: C

Observation Hole TP 232 ■ Test Pit ☐ Boring

____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	
		DARK YELLOW BROWN	
	FIRM		COMMON, DISTINCT

Soil Classification: N/A (Profile / Condition)

Slope: 8-20 %

Limiting Factor: 18 "

☐ Ground Water
☐ Restrictive Layer
☐ Bedrock
☐ Pit Depth

Soil Series Name: DIXFIELD

Drainage Class: MODERATELY WELL

Hydrologic Group: C

OR
ASTEWATER
ISPOSAL

OR
OILS
APPIN

Albert Frick

Site Evaluator /Soil Scientist Signature

SE/CSS # 163/66

Date 10/6/09

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 233 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
	SANDY LOAM			
10		FRIABLE	DARK YELLOWISH BROWN	
	GRAVELLY LOAMY SAND			
20		FIRM		
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	20 "	☐ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD (VARIANT)	MODERATELY WELL	C

Observation Hole TP 234 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC		BLACK	
	SANDY LOAM	FRIABLE	GRAY 10YR6/1	
10			DARK GRAYISH BROWN 10YR3/4	
	GRAVELLY COBBLY SANDY LOAM			
20		FIRM		
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	20 "	☐ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
MARLOW	WELL	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 235 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20				
	BEDROCK	BEDROCK	BEDROCK	BEDROCK
30				
40				
50				

OR WASTEWATER ISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	21 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

OR SOILS MAPP

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE/HOGBACK	WELL	C/B

Observation Hole TP 236 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10			STRONG BROWN	
	SANDY LOAM	FRIABLE		
20			LIGHT YELLOWISH BROWN	FEW FAINT
30				
	BEDROCK	BEDROCK	BEDROCK	BEDROCK
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	33 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Albert Frick
Site Evaluator /Soil Scientist Signature

163/66
SE/CSS #

10/6 & 10/7/09
Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 237 ☐ Test Pit ☒ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20				
30	BEDROCK			
40				
50				

OR ASTEWATER ISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	26 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

OR SOILS APPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TB 238 ☐ Test Pit ☒ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20				
30	REFUSAL (BEDROCK)			
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	26 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE/DIXFIELD	WELL/MODERATELY WELL	C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 239 ☐ Test Pit ☒ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20				
30	REFUSAL (BEDROCK)			
40				
50				

OR ASTEWATER ISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	26 "	☐ Ground Water ☒ Restrictive Layer ☐ Bedrock ☐ Pit Depth

OR SOILS APPIN

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TP 240 ☒ Test Pit ☐ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	FINE SANDY LOAM SANDY LOAM	FRIABLE	BLACK DARK GRAY	
10	BEDROCK			
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	7 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK/ABRAM	WELL/EXCESSIVELY	C/D

Albert Frick

Site Evaluator / Soil Scientist Signature

163/66

SE/CSS *

10/7/09

Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 241 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE		
REFUSAL			

OR WASTEWATER ISPOSAL

Soil Classification: N/A (Profile / Condition) · Slope: 20 % · Limiting Factor: 36 " · ☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

OR SOILS MAPPING

Soil Series Name: RAWSONVILLE/DIXFIELD · Drainage Class: WELL/MODERATELY WELL · Hydrologic Group: C

Observation Hole TB 242 ☐ Test Pit ☒ Boring

______ " Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE		
REFUSAL (BEDROCK)			

Soil Classification: N/A (Profile / Condition) · Slope: 20 % · Limiting Factor: 27 " · ☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name: RAWSONVILLE/DIXFIELD · Drainage Class: WELL/MODERATELY WELL · Hydrologic Group: C

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 243 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	VARIABLE DARK GRAYISH BROWN	
SANDY LOAM		GRAYISH BROWN	FEW FAINT
REFUSAL (BEDROCK)			

OR WASTEWATER ISPOSAL

Soil Classification: N/A (Profile / Condition) · Slope: 8-20 % · Limiting Factor: 22 " · ☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

OR SOILS MAPPIN

Soil Series Name: NASKEAG · Drainage Class: SOMEWHAT POORLY · Hydrologic Group: C

Observation Hole TP 244 ☒ Test Pit ☐ Boring

______ " Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches): 0, 10, 20, 30, 40, 50

Texture	Consistency	Color	Mottling
FINE SANDY LOAM	FRIABLE	DARK BROWN	
SANDY LOAM		LIGHT OLIVE BROWN	
BEDROCK			

Soil Classification: N/A (Profile / Condition) · Slope: 8-20 % · Limiting Factor: 15 " · ☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name: HOGBACK · Drainage Class: WELL · Hydrologic Group: B

Albert Frick

Site Evaluator /Soil Scientist Signature · 163/66 SE/CSS # · 10/7/09 Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 245 ■ Test Pit ☐ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20				
30	REFUSAL (BEDROCK)			
40				
50				

OR WASTEWATER ISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	31 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE/DIXFIELD	WELL/MODERATELY WELL	C

Observation Hole TB 246 ☐ Test Pit ■ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	SANDY LOAM	FRIABLE	STRONG BROWN	
20			DARK YELLOWISH BROWN	
30				
40	REFUSAL (BEDROCK)			
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	40 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C/B

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 247 ☐ Test Pit ■ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20	BEDROCK			
30				
40				
50				

OR WASTEWATER ISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	20 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPP

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK/RAWSONVILLE	WELL	B/C

Observation Hole TP 248 ■ Test Pit ☐ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC		BLACK	
10	SANDY LOAM	FRIABLE	STRONG BROWN	
20	BEDROCK			
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	20 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK/RAWSONVILLE	WELL	B/C

Albert Frick
Site Evaluator / Soil Scientist Signature

163/66
SE/CSS #

10/7/09
Date

ALBERT FRICK ASSOCIATES - 95A COUNTY ROAD GORHAM, MAINE 04038 - (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 249 ☐ Test Pit ☒ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20				
		BEDROCK		
30				
40				
50				

OR
ASTEWATER
ISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	22 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

OR
OILS
APPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TP 250 ☒ Test Pit ☐ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0	ORGANIC		BLACK	
			BEDROCK	
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	2 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER (INCLUSION) (ATYPICAL)	WELL	A

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TB 251 ☐ Test Pit ☒ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20			REFUSAL (BEDROCK)	
30				
40				
50				

OR
ASTEWATER
ISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	20 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

OR
OILS
APPIN

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE/HOGBACK	WELL	C/B

Observation Hole TB 252 ☐ Test Pit ☒ Boring

_______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0				
	SANDY LOAM	FRIABLE		
10			REFUSAL (LARGE STONES/BEDROCK)	
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	10 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

Albert Frick
Site Evaluator/Soil Scientist Signature

163/66
SE/CSS #

10/7/09
Date

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 253 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC		BLACK	
	SANDY LOAM		GRAY	
	BEDROCK	BEDROCK	BEDROCK	BEDROCK
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	3 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
ROCK OUTCROP/ABRAM	EXCESSIVELY	D

Observation Hole TP 254 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	FRIABLE	BLACK	
	SANDY LOAM		DARK GRAY	
10	BEDROCK	BEDROCK	BEDROCK	BEDROCK
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	6 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
ABRAM/ROCK OUTCROP	EXCESSIVELY	D

OR
ASTEWATER
ISPOSAL

OR
OILS
IAPPING

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 255 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE	STRONG BROWN	
10	COBBLY SANDY LOAM		LIGHT OLIVE BROWN	△△△ FREE WATER
	BEDROCK	BEDROCK	BEDROCK	BEDROCK
20				(CURRENTLY HEAVY RAINS)
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	14 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK (VARIANT)	WELL	B

Observation Hole TB 256 ☐ Test Pit ■ Boring
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE		
20	BEDROCK	BEDROCK	BEDROCK	BEDROCK
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	8-20 %	22 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

OR
ASTEWATER
ISPOSAL

OR
OILS
IAPPING

Albert Frick
Site Evaluator /Soil Scientist Signature

163/66
SE/CSS #

10/7/09
Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 257 ☒ Test Pit ☐ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			DARK BROWN	
10	SANDY LOAM	FRIABLE	DARK YELLOWISH BROWN	
20			GRAYISH BROWN	
	BEDROCK			
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
N/A Profile Condition	20 %	24 "	☐ Ground Water ☐ Restrictive Layer ☒ Bedrock ☐ Pit Depth

FOR SOI MA

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole ______ ☐ Test Pit ☐ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
Profile Condition	%	"	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole ______ ☐ Test Pit ☐ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification	Slope	Limiting Factor	
Profile Condition	%	"	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SC MA

Soil Series Name:	Drainage Class:	Hydrologic Group:

Observation Hole ______ ☐ Test Pit ☐ Boring
______ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
Profile Condition	%	"	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:

Albert Frick	163/66	10/7/09
Site Evaluator / Soil Scientist Signature	SE/CSS #	Date

ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

HIGHLAND WIND PROJECT

Highland Plantation and Pleasant Ridge Plantation, Maine

SOIL NARRATIVE REPORT

November, 2009

PREPARED FOR:

HIGHLAND WIND, LLC
c/o
Stantec Consulting Services, Inc.
30 Park Drive
Topsham, ME 04086

by
Albert Frick
Albert Frick Associates, Inc.
95A County Road
Gorham, ME 04038

TABLE OF CONTENTS

List of Appendices

1.0 Introduction

The proposed project includes 49 turbine sites, 21.7 miles of access roads, and 12.6 miles of transmission line corridor. *Albert Frick Associates* is pleased to provide the Soil Survey for the proposed *Highland Wind Project* in *Highland Plantation* and *Pleasant Ridge Plantation, Maine*. This level of soil survey is required by *Maine Department of Environmental Protection* and the *Maine Land Use Regulations* for *linear* projects (e.g. wind projects).

2.0 Purpose

The purpose of our soils investigation was to provide taxonomic classification for the various soils identified along the proposed corridor of the access road alignment and within the proposed turbine pad sites. The purpose of this specific soil survey is to identify and quantify limitations for development, with respect to soil drainage, physical properties and/or depths to bedrock class. Specifically, our investigation was intended to yield a Class L (linear) soils survey for the proposed project.

The focus of a Class L Soil Survey for linear wind power projects is specifically concentrated in areas of proposed access roads, turbine pads, and laydown areas. (A High Intensity Class B Soil Survey was done in the Operations and Maintenance Building site). The *Maine Department of Environmental Protection* and the *Maine Land Use Regulation Commission*, and *David Rocque, State Soil Scientist*, are concerned with retaining hydraulic connections and maintaining the natural perched ground water and surface run-off pattern as much as is feasible. Specifically, transversing road alignments along the side sloping mountainous terrain which is subject to long drainage sheds with high volumes of perched ground water flows and surface water runoff are a primary concern.

Currently, the *state of the art* of access road designs, required by environmental regulators, is to maintain a continued hydraulic interconnection between the upslope and downslope sides of new road beds, by allowing water to pass through in more of a *sheet* flow capacity and to minimize large channelized flow. A *rock sandwich* (aka *French mattress* per Penn State technical bulletin) is one such technique.

Albert Frick Associates' soil scientists examined the proposed access road corridors, turbine sites and transmission lines, and identified and survey-located areas of soils which are either poorly to somewhat poorly drained, exhibit oxyaquic conditions, intermittent drainages not included in wetland delineation streams, subterranean mountain streams and natural drainage swales that have potential to concentrate surface water runoff during periods of Spring snowmelt or heavy precipitation.

3.0 Methodology

Soils identification, mapping and soil surveys were done in accordance with the standards adopted by the *Maine Association of Professional Soil Scientists (revised February 2004)* for *Class L* soil surveys for the proposed access road and proposed turbine sites and *Class B* for the proposed Operations & Maintenance building site. A modified *Class D* soil survey was done for the proposed transmission line corridor to identify somewhat poorly to poorly drained soils, which would be sensitive to erosion and sediment control if proposed construction was done. Soils are described using standard soil terminology developed by the *USDA Natural Resources Conservation Service*, which is also where soil interpretation records originate for each soil series described in Maine. Where important distinctions between hydric and non-hydric soils are made in the mapping, the *Maine Association of Professional Soil Scientists Key to Soil Drainage Classes* was also utilized, as well as a separate list of regional indicators for identification of hydric soils (*Field Indicators for Identifying Hydric Soils in New England, version 3 2004*).

The proposed road alignment, turbine sites, O & M building site, and Transmission Line Corridor were examined in the field on June 22, 23, 24, 30, July 1, September 14, 15, 21, 23 and October 6, 7, 12 and 13 2009. *Albert Frick*, Certified Soil Scientist, accompanied by a Field Technician with Global Positioning Systems (GPS) unit [Trimble GeoXT submeter accuracy] performed the field work.

Field work consisted of documenting soil morphology and characteristics with hand dug test pits, borings and probes to bedrock and/or refusal. Soil types were identified and depicted on the proposed project Site Plan 1” = 100’.

The nature of typical proposed wind projects is that they are sited in remote mountainous areas to harvest the potential wind resource. It is usually not feasible to utilize mechanized equipment (i.e. backhoe excavation, drilling rig, etc.) due to inaccessibility and environmental concerns. Consequently, the soil mapper used a tile spade shovel, hand soil auger, and tile probe to excavate test pits to a depth of 40 inches or until refusal due to encountering bedrock, large boulder, or basal lodgment till. Test pits were identified on-site with numbered flagging tape. Each test pit was located by submeter GPS by AFA personnel.

Additional confirmatory soil borings/observations by soil auger assisted in placement of soil map unit boundaries onto the soil survey base map. Bedrock outcroppings observed were located by GPS survey to further identify shallow to bedrock soil map units.

Soil map units were designed to report the pertinent soil characteristics along with their soil limitations for the proposed use and management of a Wind Power project site. *Ad hoc* symbols were used in places on the map, to provide more detailed information about bedrock outcropping locations, groundwater seeps, surface water runoff, soil areas comprised of oxyaquic soils, intermittent and perennial streams or watercourses, and other natural features encountered on the property.

A preliminary soils map was developed by obtaining the electronic layer of the *U.S. Natural Resource Conservation Service* medium intensity map, and importing the soil boundary information into the project CAD file (State Plan). This was utilized for a preliminary soil map and the entire project area was reviewed along the proposed access road corridor, turbine sites, and transmission lines. Soil test pits excavations and descriptions were performed to upgrade, refine, and modify the map within the project borders.

The developing soils work, along with the topographic survey and wetland delineation were used by the project Design and Permitting Teams to locate and revise the road alignment and turbine placement, as well as to refine the design with regards to natural hydraulic cross-drainage concerns.

The soils data provide information useful for engineering by anticipating existing and proposed conditions with regards to *depth to bedrock*, that will affect blasting, benching techniques, and source of road building materials and/or cost; *soil drainage characteristics* that will affect road hydraulic cross-drainage, culverting frequency and sizing, storm water design, and erosion and sediment control; *soil textures/slopes* that will affect erosion potential.

4.0 Site Location/Setting

The proposed Highlands Wind Project is located off *Long Falls Dam Road* and *Sandy Stream Valley Road* in *Highlands Plantation, Maine*. The transmission corridor to Wyman Dam also passes through *Pleasant Ridge Plantation.* The project area consists of moderately sloping to steeply sloping topography, and is currently comprised mainly of forested land, except for portions of the transmission line which are existing.

5.0 General Site and Subsurface Conditions

The site includes primarily forested sideslopes and mountain top ridges. Soil landforms generally consist of *loam* and *sandy loam* soils derived from glacial till. The tops of the mountain and ridge lines are generally bedrock controlled, and consequently exhibit shallow to bedrock soil conditions. The sideslopes tend to be comprised of deeper soils (ie. +40” in depth), which are *loam* to *sandy loam* textured derived from basal till. These soils commonly exhibit a firm substratum which produces a perched ground water table.

6.0 Soil Map Unit Descriptions

The soil map unit descriptions included in Appendix C provide taxonomic details regarding the soil series encountered, and an idea of the composition of soils within a given map unit (both for the range of soil characteristics and the dominant soils within complex units). Soil map units with multiple names are generally listed in order of their prevalence within the map unit. Slope gradient ranges are also provided, and refer to slope phases indicated in the soil survey map and in the soil legend. The soil narrative report is provided to describe the soil composition and physical characteristics, and the general soil limitations for the proposed use and management. The soils map depicts the spatial location of the soil or soils within the project site.

7.0 Conclusions and Recommendations

Based on our observations of the project site, and our knowledge of the proposed use of the property, the soils within the development area are suitable for the proposed use, with the following notable exceptions:

> *Recommend providing road cross drainage of the natural perched and surface water flow in the specified areas of the soil map. (Civil engineers should consider rock sandwich (aka French mattress), frequent cross culverting and road turn-outs to maintain and maximize sheet flow.*

The nearly level, moderately sloping glacial till soils that are moderately well drained or well drained are generally suitable for the proposed use, although some modifications to drainage or slope may be needed to improve conditions. On the somewhat poorly drained soils, where seasonal high groundwater tables may be within 12” of the mineral soil surface for a significant portion of the year, additional measures such as the addition of coarse granular fill, or the installation of upslope curtain drain to intercept sheet flow drainage, may be needed to overcome limitations.

The poorly or very poorly drained hydric soils have further limitations due to prolonged wetland and frost susceptibility, and may have additional permitting implications if identified as wetland areas.

APPENDICES

APPENDIX A

Limitations

This soil narrative report and accompanying soil survey map have been prepared for the exclusive use of *Stantec Consulting*, for its specific application to the proposed *Highland Wind Power Project* in *Highland Plantation* and *Pleasant Ridge Plantation*, *Maine*. Albert Frick Associates, Inc. conducted the work in accordance with generally accepted soil science practices outlined in the *Maine Association of Professional Soil Scientists Guidelines*, and the *Maine Board of Certification of Geologists and Soil Scientists Guidelines*. Further, presentation of mapping information meets the requirements of Guidelines for Maine Certified Soil Scientists for Soil Identification and Mapping (2004), and in accordance with standards adopted by the Maine Department of Environmental Protection (MDEP) for project review. No other warranty, expressed or implied, is made.

It should be recognized that map unit design is influenced by the intended use of the soil survey information, and may not be adequate or sufficient to evaluate for uses other than that for which the specific soil survey was developed. Soils which are non-limiting for one use may be considered a limitation for different use than that identified.

The analysis contained herein is based on data obtained during subsurface exploration of the site, and the interpretation of published information by the *USDA Natural Resources Conservation Services*. Due to the glaciation of Maine, and the complexity of the landscaping, variations in subsurface conditions may exist between exploration sites which may not become evident until significant project excavation begins. Should significant variations in subsurface conditions become evident after the submission of this report, it may be necessary to re-evaluate the nature of the variation, in light of the recommendations enclosed herein.

Due to the combination of remoteness, current inaccessibility of heavy excavation equipment (e.g. backhoe, excavator, drill auger) and permitting constraints, *Albert Frick Associates'* Soil Scientist utilized hand shovels, tile probes and soil augers. *Refusal* or depth limitation to hand operated equipment may be due to bedrock and/or large stone or boulders.

APPENDIX B

Maine Association of Professional Soil Scientists Standards

Class L (Linear) Soil Survey Map

Purpose - This soil survey standard is designed to provide the minimum soil information necessary to allow for the design and construction of long but narrow projects such as access roads, utility lines or trails with little or no adjacent development. In remote, difficult to access sites such as mountains or roadless areas, soil observations may be made entirely by use of a hand shovel, screw or Dutch auger. For areas which are more accessible, deeper soil observations should be made in order to properly classify the soils.

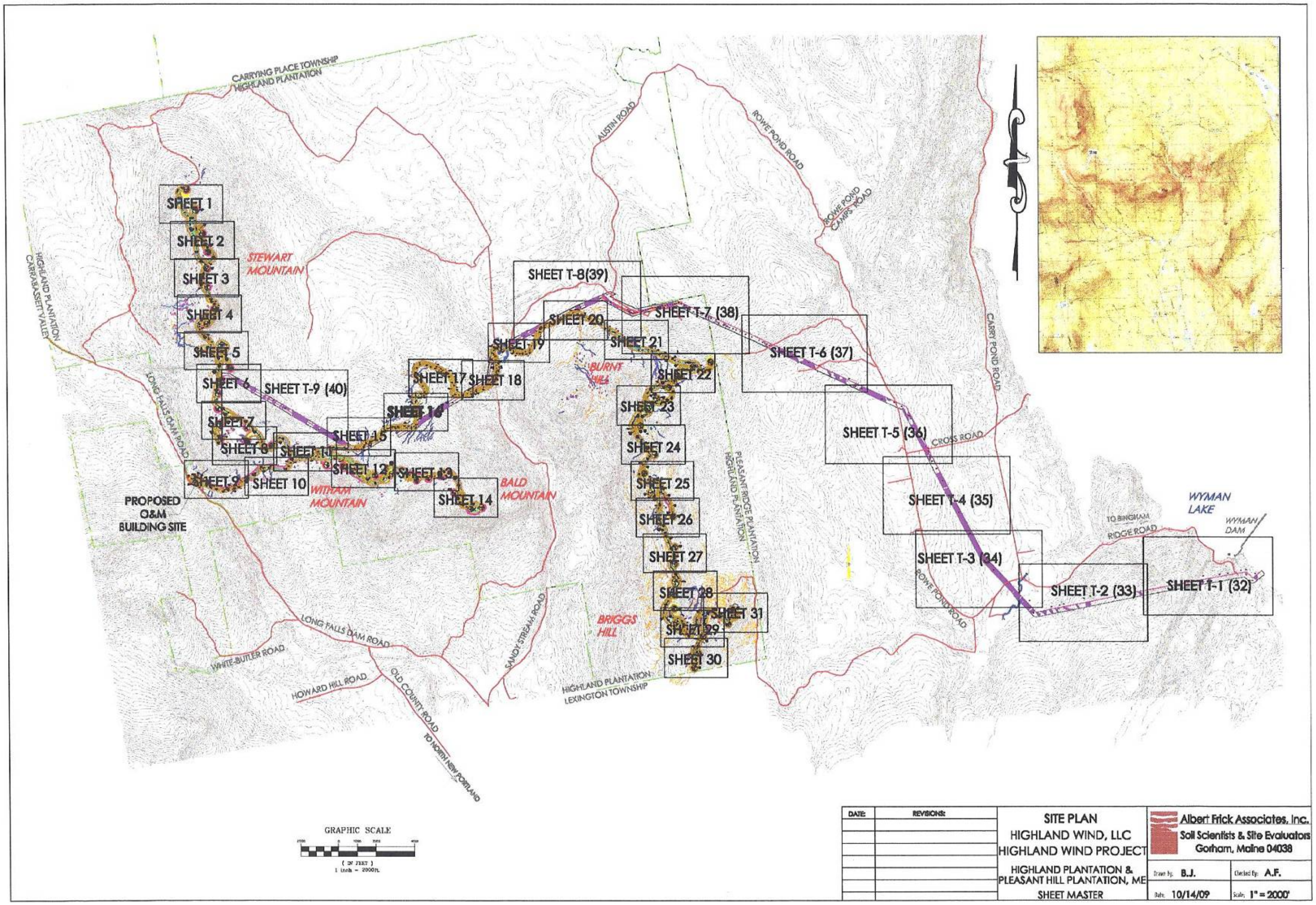
1. Class L soil survey map units shall be made on the basis of parent material, slope, soil texture, soil depth to dense till or bedrock (which ever is shallowest) and soil wetness (drainage class and/or oxyaquic conditions) at the Class A High Intensity Map Unit size. The preferred method of naming the soil map units is by assigning a soil series name or names for complexes. If soils are classified to the series level in remote areas not readily accessible to equipment and/or without road cuts, it shall be noted in the narrative that soils were classified by shallow observations only.

2. Scale is 1 inch equals 100 feet or larger (e.g. 1”=50’).

3. Ground Control - base line and test pits for which detailed data are recorded are located to sub-meter accuracy under the direction of a qualified professional.

4. Base map with two foot contour lines.

SEE END OF SOILS SECTION REPORT
FOR LOCATION OF INDIVIDIAL
SOIL MAP SHEETS (1 – 40)



DATE:	REVISIONS:

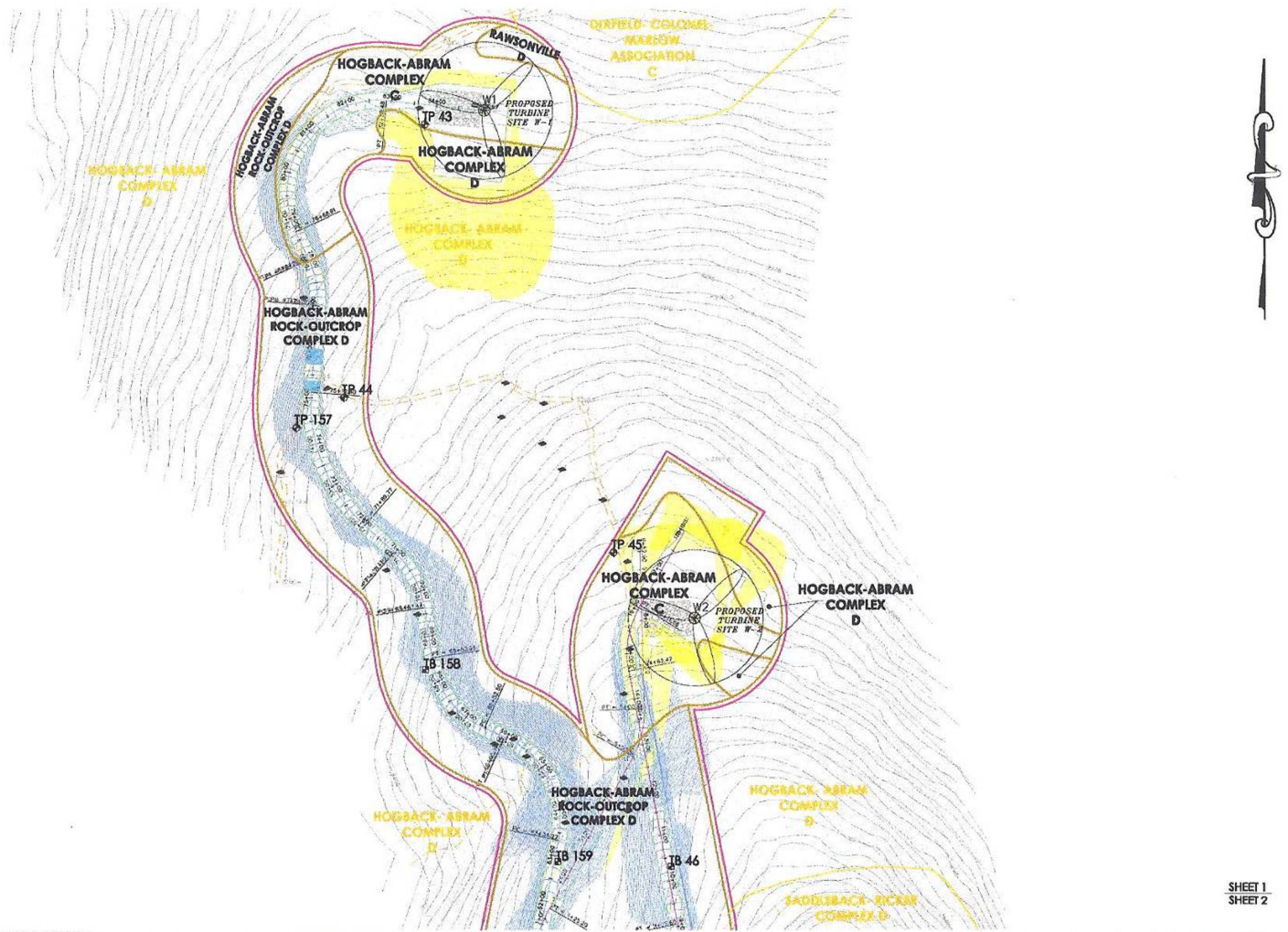
SITE PLAN
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME

SHEET MASTER

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.	Checked By: A.F.
Date: 10/14/09	Scale: 1" = 2000'



SHEET 1
SHEET 2

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

SOILS MAP LEGEND:

- SOIL TEST PIT
- SOIL TEST BORING
- WETLAND AREA (DELINEATED BY STANTEC)
- SOIL TEST PIT (BY STANTEC)
- BEDROCK OUTCROP (LOCATED BY G.P.S.)
- MET TOWER
- WOODS ROAD (EXISTING)
- BRIDGE (EXISTING)
- STREAM
- TRAIL (EXISTING)
- CULVERT (EXISTING)
- LIMITS OF SOIL STUDY CORRIDOR AREA FOR ROAD ALIGNMENT
- NRCS SOIL BOUNDARY LINE
- DIXFIELD NRCS SOIL NAME
- CLASS L SOIL BOUNDARY LINE
- DIXFIELD CLASS L SOIL NAME
- AREA RECOMMENDED FOR CROSS-DRAINAGE (OXYAQUIC CONDITION, VERY POORLY TO SOMEWHAT POORLY AND/OR NATURAL SWALES. SUBJECT TO SURFACE AND/OR PERCHED GROUNDWATER FLOW DURING SPRING MELT AND TIMES OF HEAVY PRECIPITATION
- SOIL AREA IN TRANSMISSION LINE CORRIDOR WHICH EXHIBIT SOMEWHAT POORLY TO POORLY DRAINED CONDITION, OXYAQUIC CONDITIONS, OR WATER COURSES WHERE SPECIAL CONSIDERATION FOR SOIL DISTURBANCE BE EXERCISED IF PROPOSED CONSTRUCTION IS DONE DURING UNFROZEN GROUND CONDITIONS, OR DURING WET SOIL CONDITIONS (SEE STANTEC TOOL BOX OF RECOMMENDED TECHNIQUES)

SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+
[illegible]	[illegible]

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

ALBERT FRICK 66

DATE:	REVISIONS:

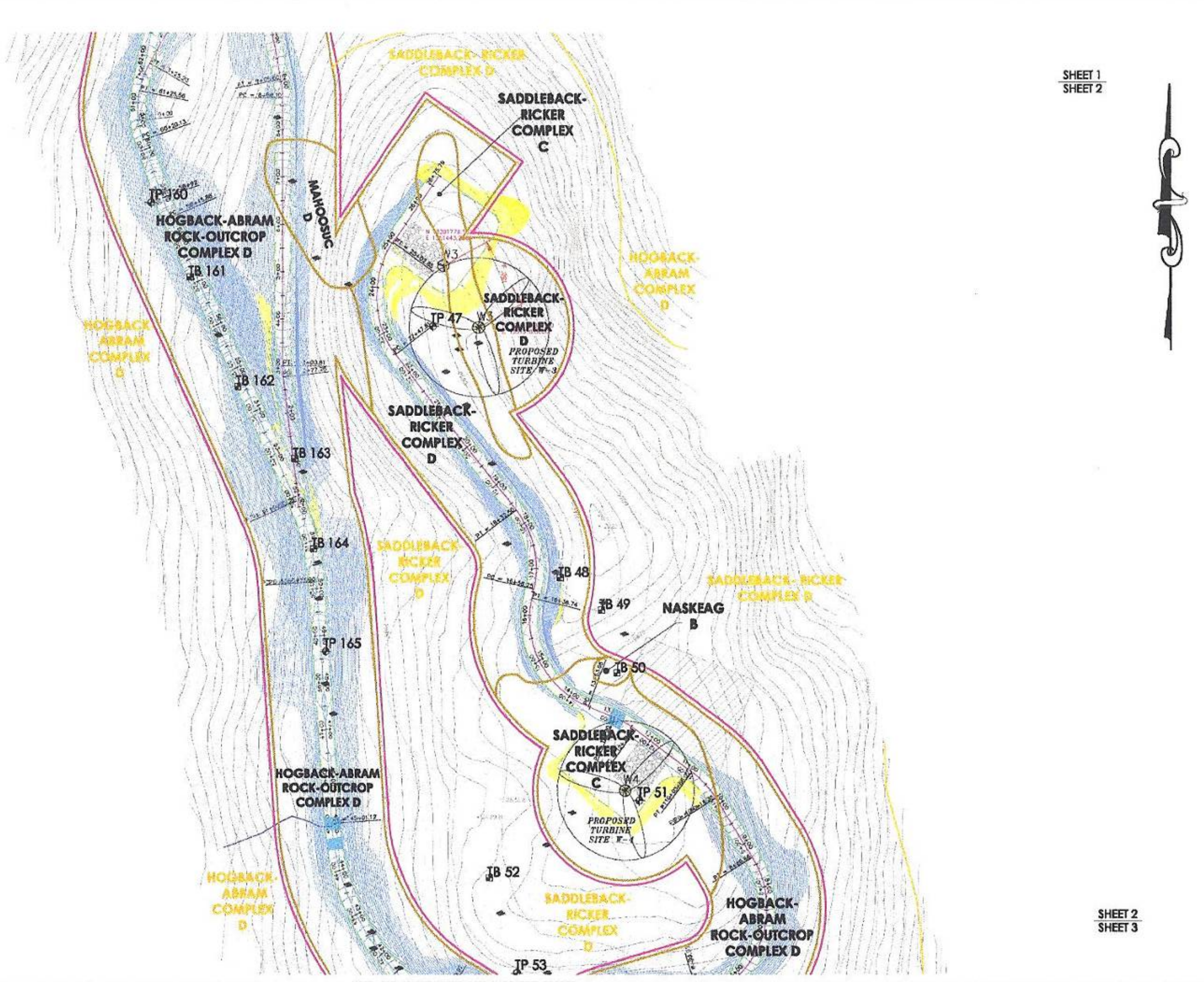
SOILS MAP

HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 1 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.	Checked By: A.F.
Date: 10/14/09	Scale: 1" = 100'



GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

SOILS MAP LEGEND:

- *SOIL TEST PIT*
- *SOIL TEST BORING*
- *WETLAND AREA (DELINEATED BY STANTEC)*
- *SOIL TEST PIT (BY STANTEC)*
- *BEDROCK OUTCROP (LOCATED BY G.P.S.)*
- *MET TOWER*
- *WOODS ROAD (EXISTING)*
- *BRIDGE (EXISTING)*
- *STREAM*
- *TRAIL (EXISTING)*
- *CULVERT (EXISTING)*
- *LIMITS OF SOIL STUDY CORRIDOR AREA FOR ROAD ALIGNMENT*
- *NRCS SOIL BOUNDARY LINE*
- DIXFIELD *NRCS SOIL NAME*
- *CLASS L SOIL BOUNDARY LINE*
- **DIXFIELD** *CLASS L SOIL NAME*
- *AREA RECOMMENDED FOR CROSS-DRAINAGE* (OXYAQUIC CONDITION, VERY POORLY TO SOMEWHAT POORLY AND/OR NATURAL SWALED, SUBJECT TO SURFACE AND/OR PERCHED GROUNDWATER FLOW DURING SPRING MELT AND TIMES OF HEAVY PRECIPITATION
- SOIL AREA IN TRANSMISSION LINE CORRIDOR WHICH EXHIBIT SOMEWHAT POORLY TO POORLY DRAINED CONDITION, OXYAQUIC CONDITIONS, OR WATER COURSES WHERE SPECIAL CONSIDERATION FOR SOIL DISTURBANCE BE EXERCISED IF PROPOSED CONSTRUCTION IS DONE DURING UNFROZEN GROUND CONDITIONS, OR DURING WET SOIL CONDITIONS (SEE STANTEC TOOL BOX OF RECOMMENDED TECHNIQUES)

SLOPE DESIGNATIONS

A	0-3%
B	3-8%
C	8-20%
D	20%+
E	30%+ [illegible]

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "D" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

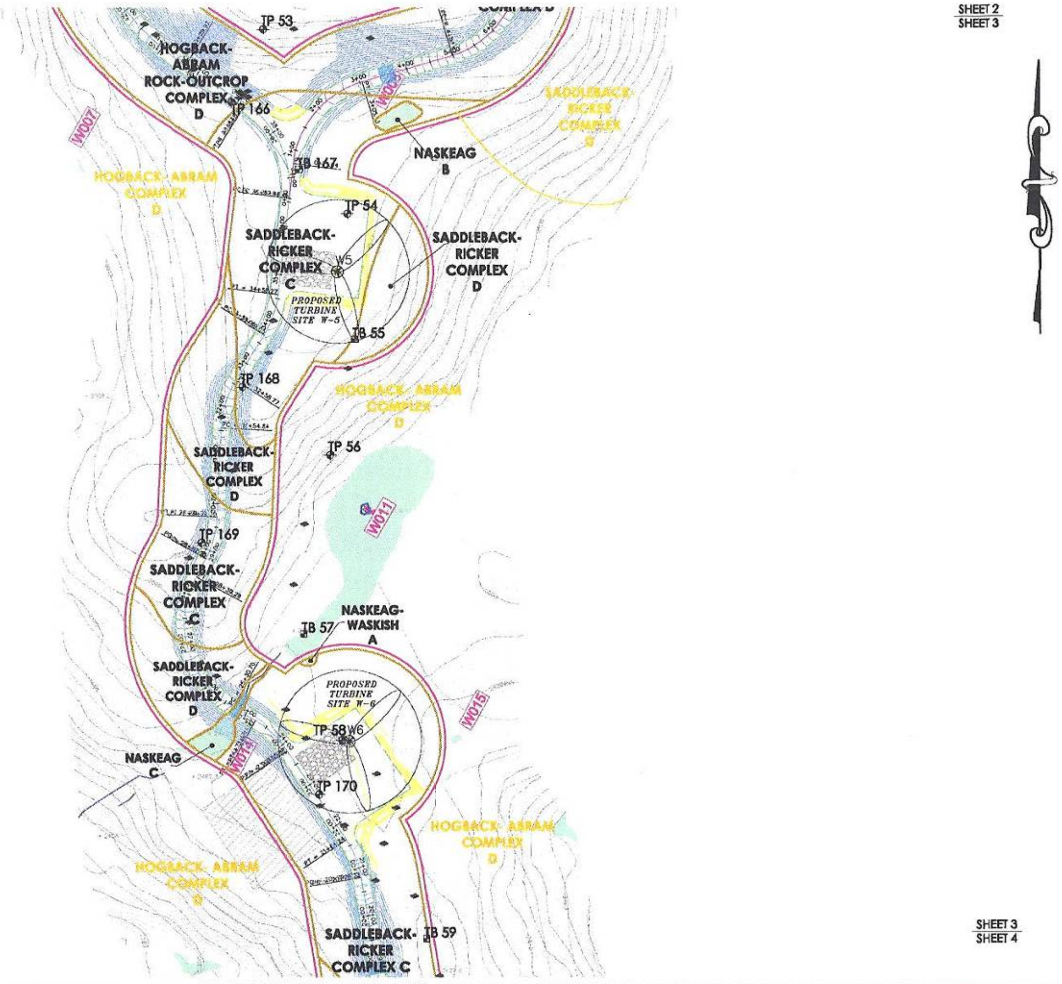
ALBERT FRICK
66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT
HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 2 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.	Checked By: A.F.
Date: 10/14/09	Scale: 1" = 100'



GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

SOILS MAP LEGEND:

- SOIL TEST PIT
- SOIL TEST BORING
- WETLAND AREA (DELINEATED BY STANTEC)
- SOIL TEST PIT (BY STANTEC)
- BEDROCK OUTCROP (LOCATED BY G.P.S.)
- MET TOWER
- WOODS ROAD (EXISTING)
- BRIDGE (EXISTING)
- STREAM
- TRAIL (EXISTING)
- CULVERT (EXISTING)
- LIMITS OF SOIL STUDY CORRIDOR AREA FOR ROAD ALIGNMENT
- NRCS SOIL BOUNDARY LINE
- NRCS SOIL NAME
- CLASS L SOIL BOUNDARY LINE
- CLASS L SOIL NAME
- AREA RECOMMENDED FOR CROSS-DRAINAGE (OXYAQUIC CONDITION, VERY POORLY TO SOMEWHAT POORLY AND/OR NATURAL SWALES, SUBJECT TO SURFACE AND/OR PERCHED GROUNDWATER FLOW DURING SPRING MELT AND TIMES OF HEAVY PRECIPITATION
- SOIL AREA IN TRANSMISSION LINE CORRIDOR WHICH EXHIBIT SOMEWHAT POORLY TO POORLY DRAINED CONDITION, OXYAQUIC CONDITIONS, OR WATER COURSES WHERE SPECIAL CONSIDERATION FOR SOIL DISTURBANCE BE EXERCISED IF PROPOSED CONSTRUCTION IS DONE DURING UNFROZEN GROUND CONDITIONS, OR DURING WET SOIL CONDITIONS (SEE STANTEC TOOL BOX IF RECOMMENDED TECHNIQUES)

SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

ALBERT FRICK 66

DATE:	REVISIONS:

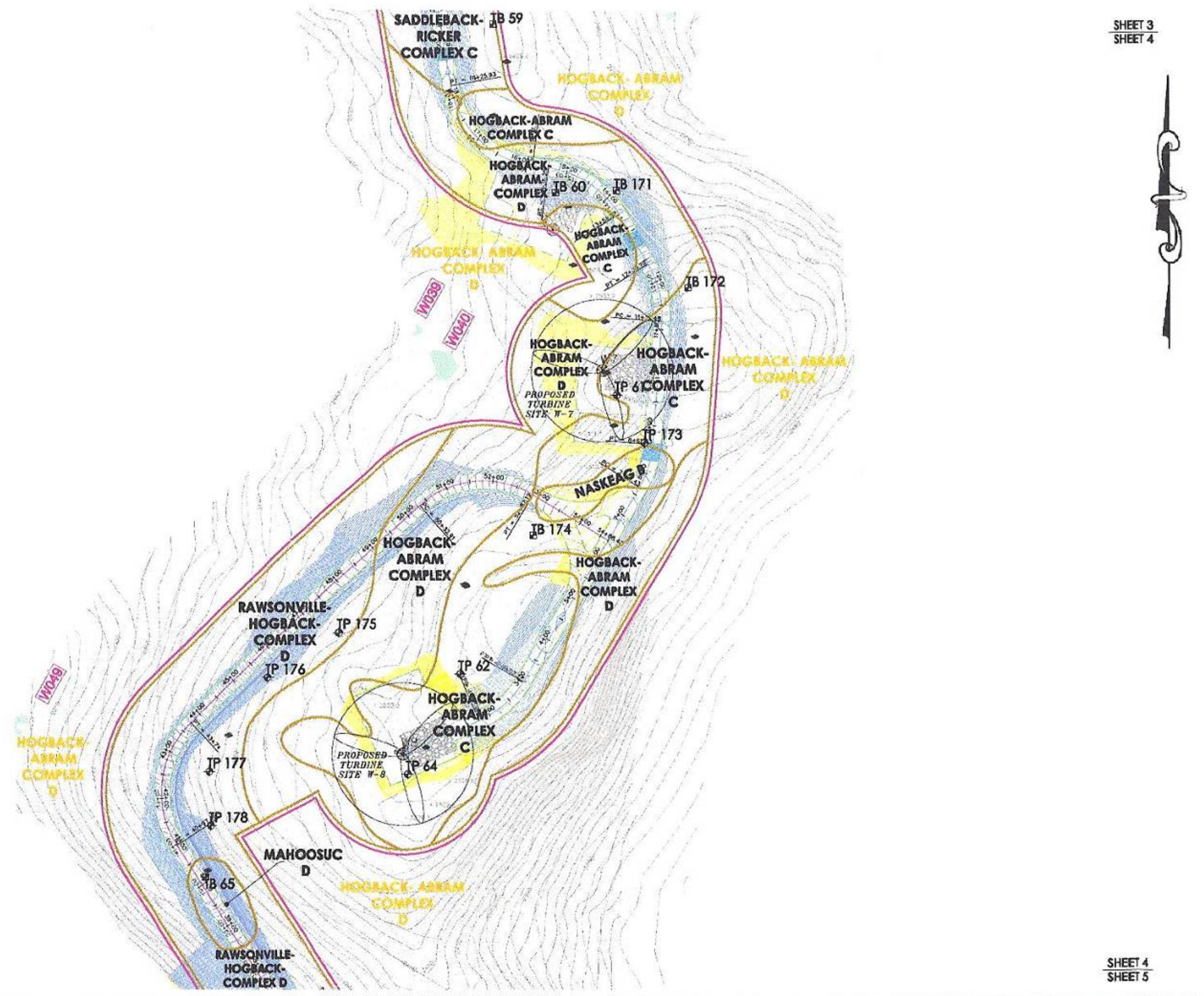
SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 3 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.
Checked By: A.F.
Date: 10/14/09
Scale: 1" = 100'

SHEET 3
SHEET 4



SHEET 4
SHEET 5

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

SOILS MAP LEGEND:

- SOIL TEST PIT
- SOIL TEST BORING
- WETLAND AREA (DELINEATED BY STANTEC)
- SOIL TEST PIT (BY STANTEC)
- BEDROCK OUTCROP (LOCATED BY G.P.S.)
- MET TOWER
- WOODS ROAD (EXISTING)
- BRIDGE (EXISTING)
- STREAM
- TRAIL (EXISTING)
- CULVERT (EXISTING)
- LIMITS OF SOIL STUDY CORRIDOR AREA FOR ROAD ALIGNMENT
- NRCS SOIL BOUNDARY LINE
- NRCS SOIL NAME
- CLASS L SOIL BOUNDARY LINE
- CLASS L SOIL NAME
- AREA RECOMMENDED FOR CROSS-DRAINAGE (OXYAQUIC CONDITION, VERY POORLY TO SOMEWHAT POORLY AND/OR NATURAL SWALED. SUBJECT TO SURFACE AND/OR PERCHED GROUNDWATER FLOW DURING SPRING MELT AND TIMES OF HEAVY PRECIPITATION
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SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

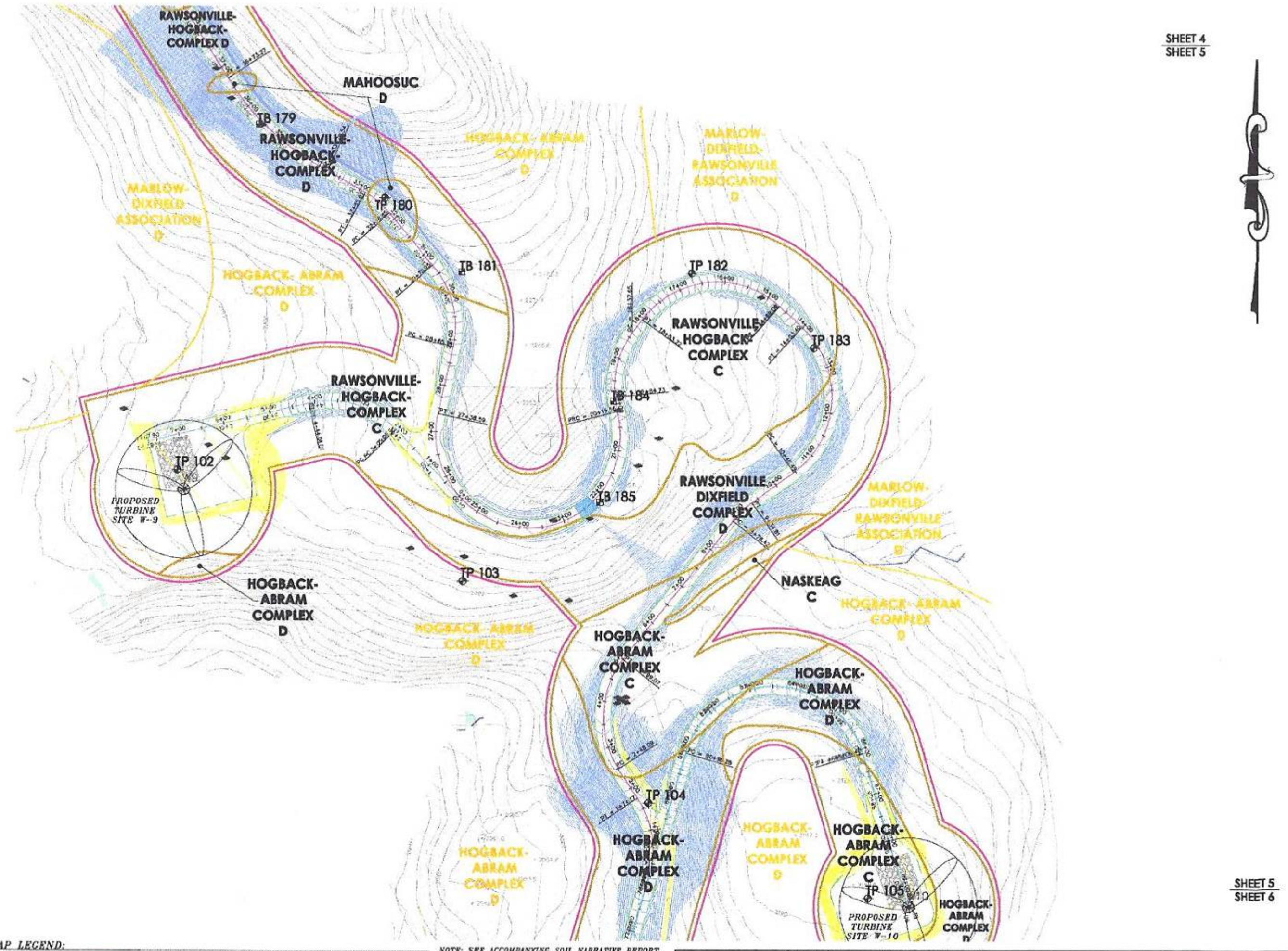
ALBERT FRICK 66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT
HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 4 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.	Checked By: A.F.
Date: 10/14/09	Scale: 1" = 100'



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(IN FEET)
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ALBERT FRICK 66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
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SHEET 5 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
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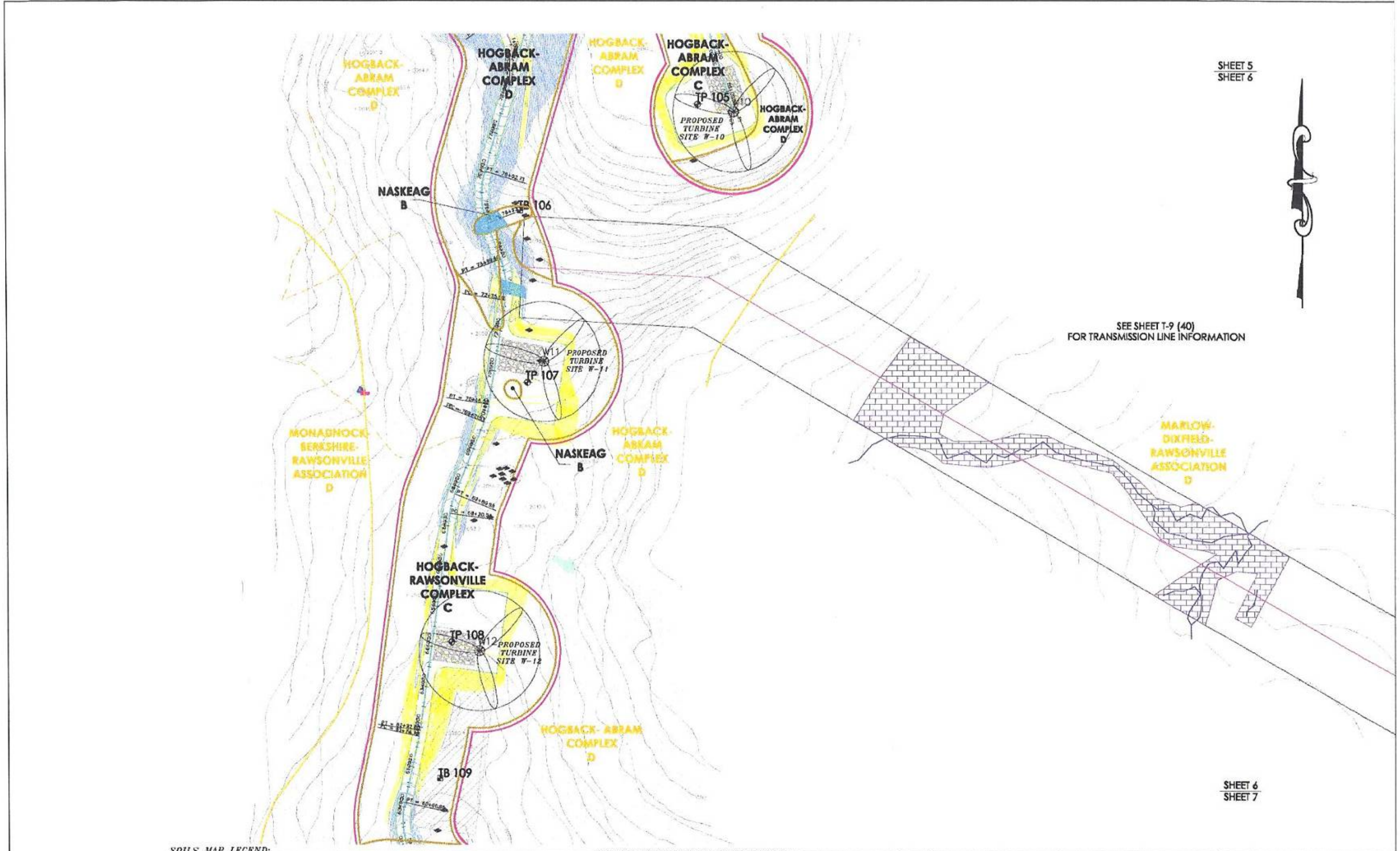

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E	20+ - [illegible]

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

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STATE OF MAINE
ALBERT FRICK
66
CERTIFIED SOIL SCIENTIST
Albert Frick

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT
HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 6 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
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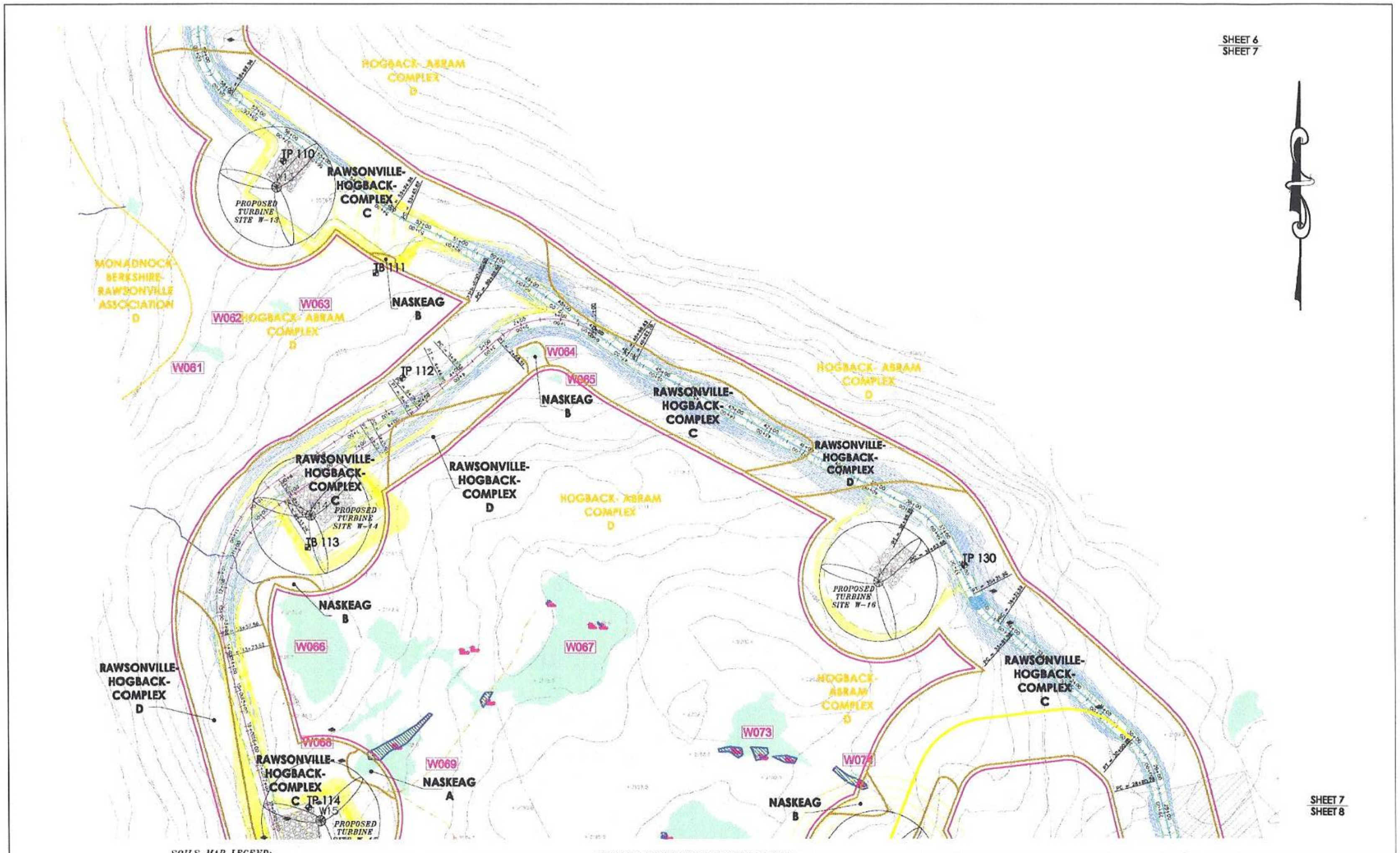

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SLOPE DESIGNATIONS

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NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

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ALBERT FRICK 66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT
HIGHLAND PLANTATION &
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SHEET 7 of 40

Albert Frick Associates, Inc.
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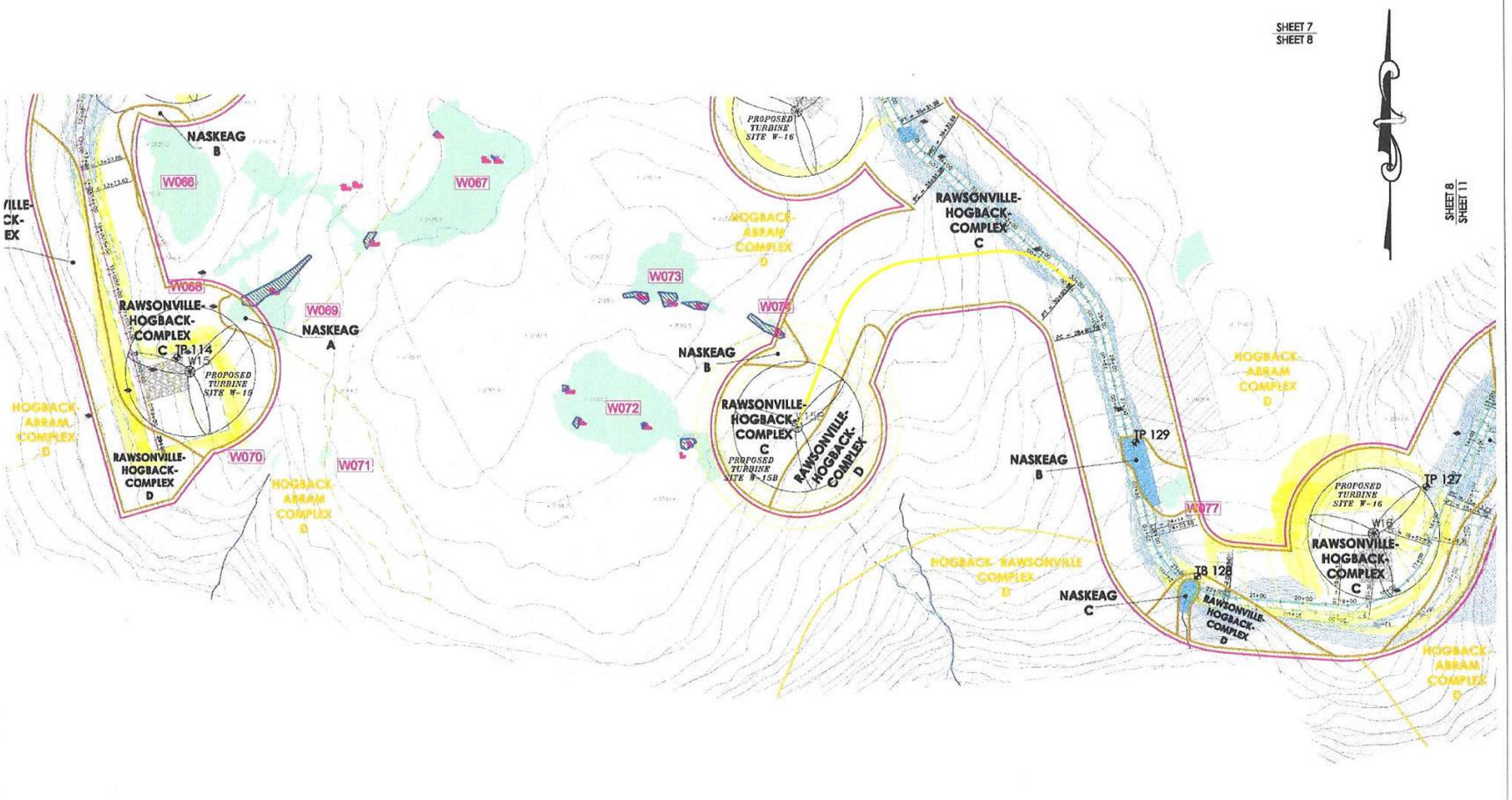

GRAPHIC SCALE

(IN FEET)
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SOILS MAP LEGEND:

- *SOIL TEST PIT*
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- *NRCS SOIL NAME*
- *CLASS L SOIL BOUNDARY LINE*
- DIXFIELD *CLASS L SOIL NAME*
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NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

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STATE OF MAINE
ALBERT FRICK
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DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 8 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

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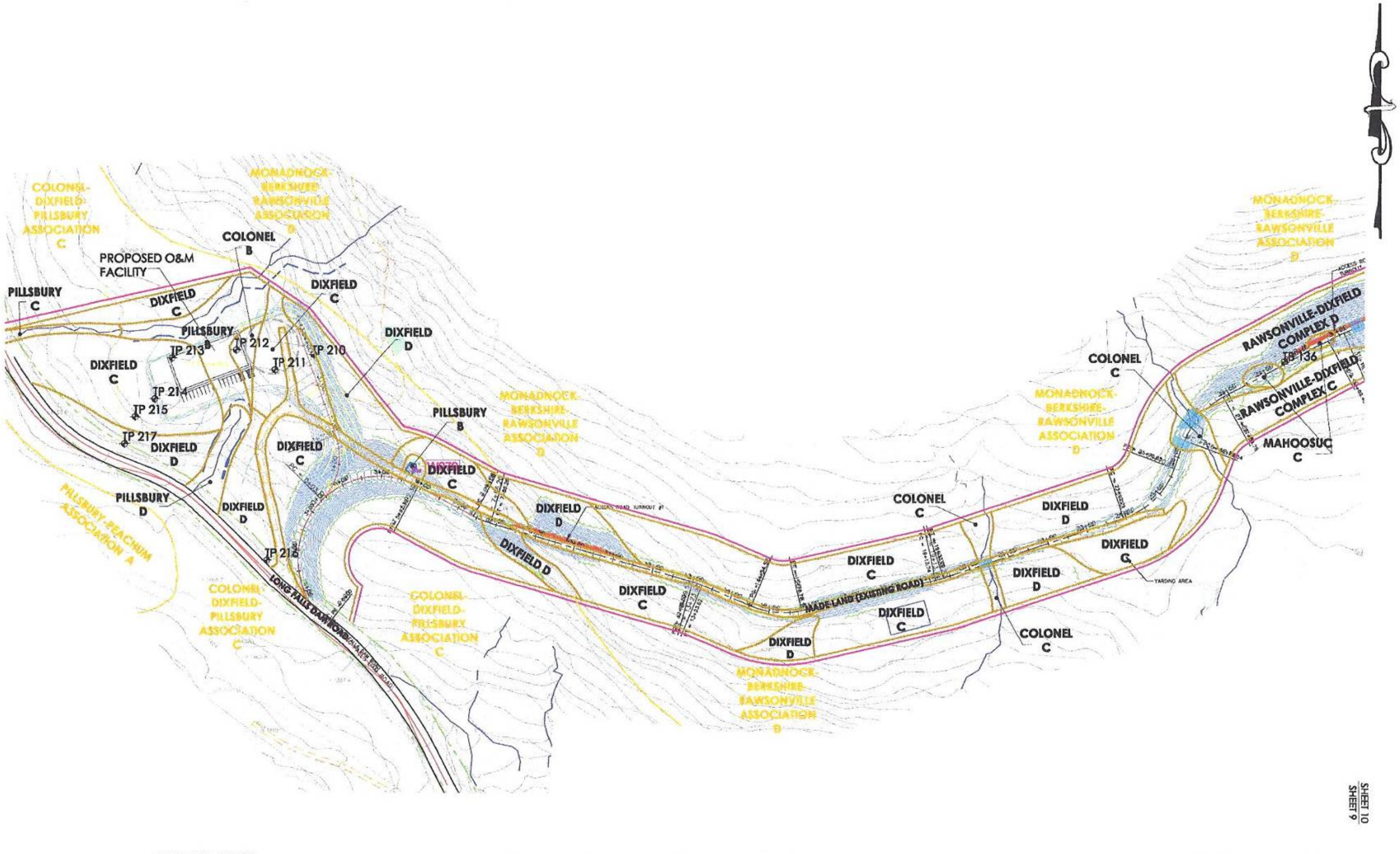

SHEET 10
SHEET 9

GRAPHIC SCALE

(IN FEET)
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E	[illegible]

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STATE OF MAINE
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DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
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SHEET 9 of 40

Albert Frick Associates, Inc.
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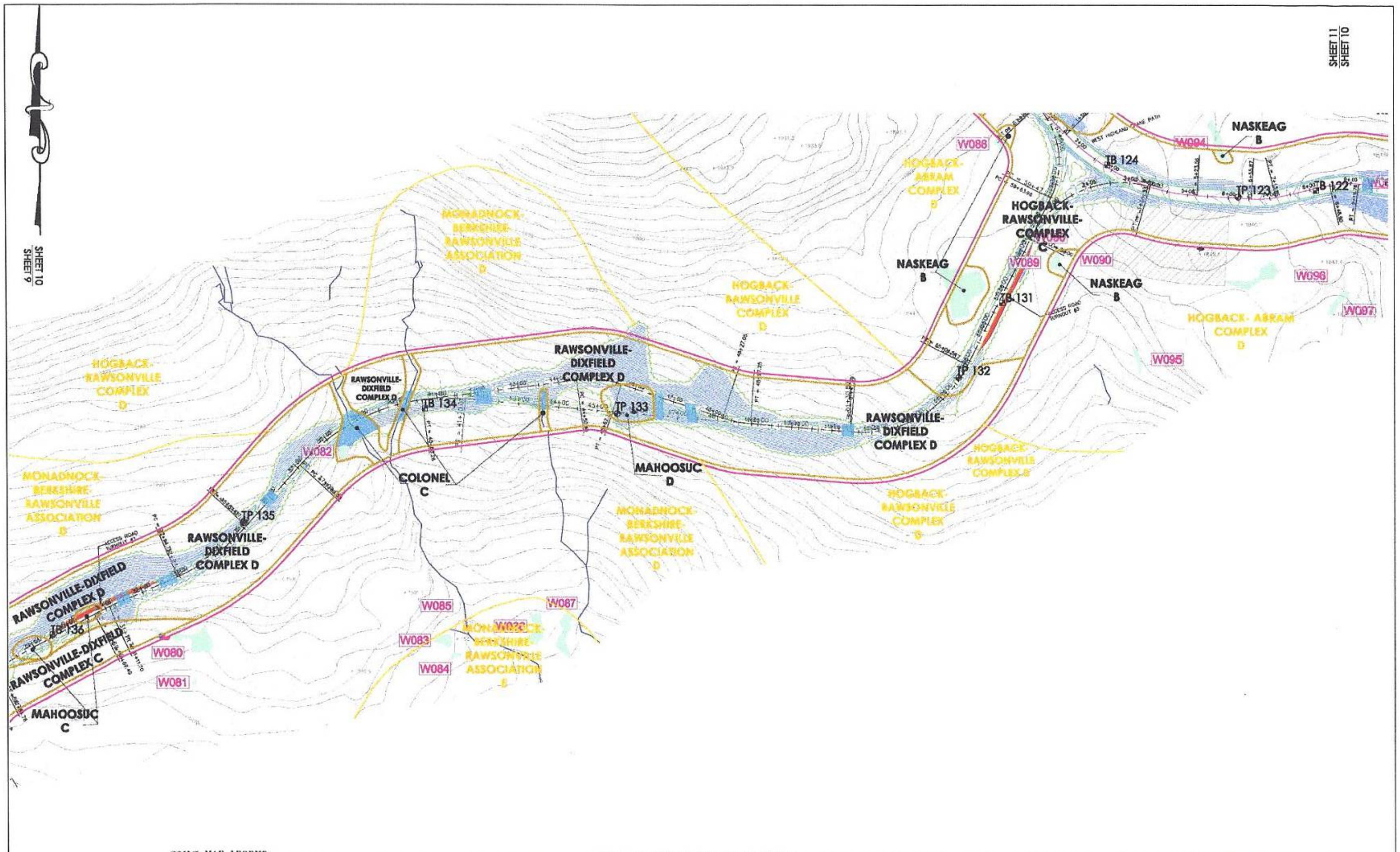

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ALBERT FRICK
65

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SHEET 10 of 40

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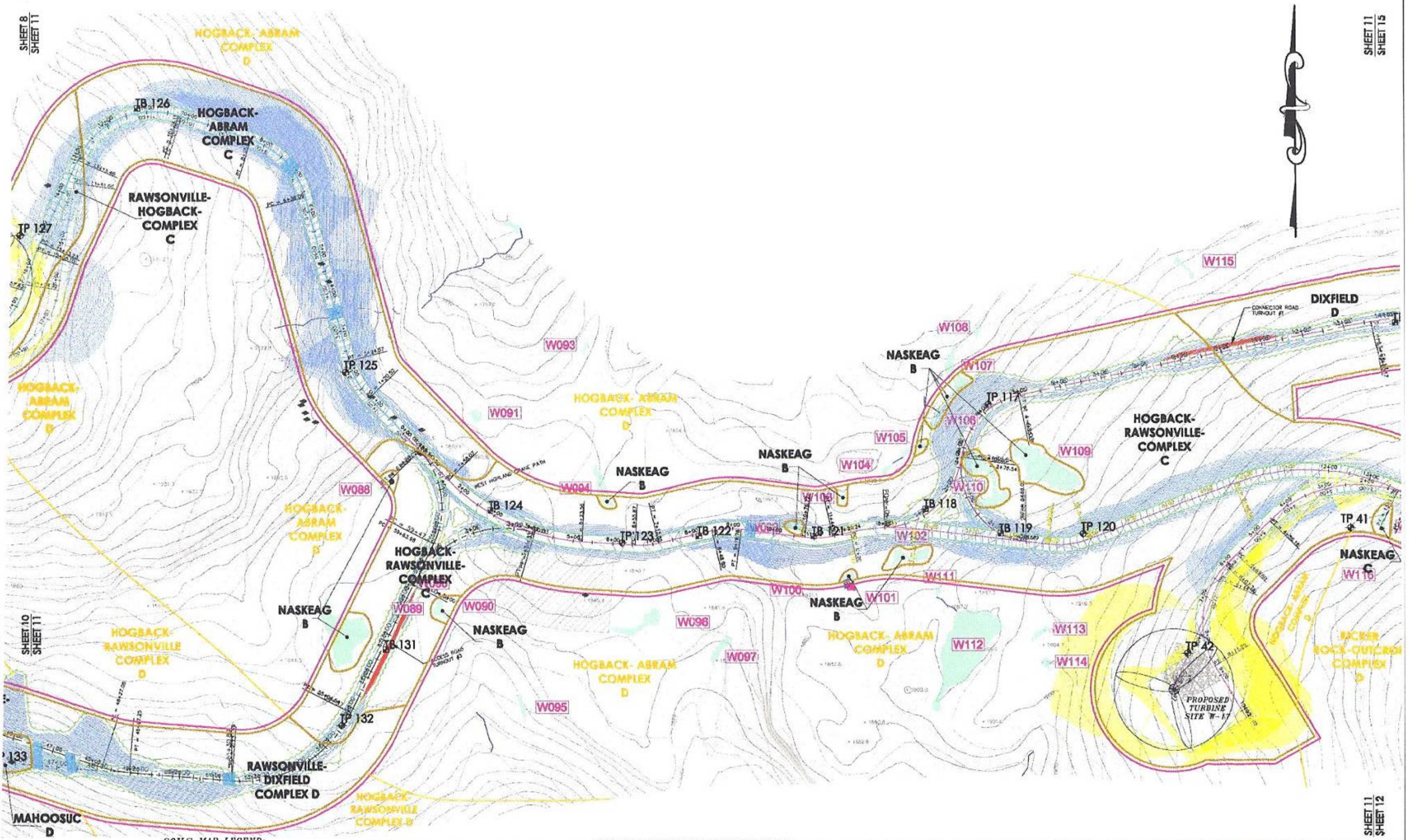

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ALBERT FRICK 66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
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SHEET 11 of 40

Albert Frick Associates, Inc.
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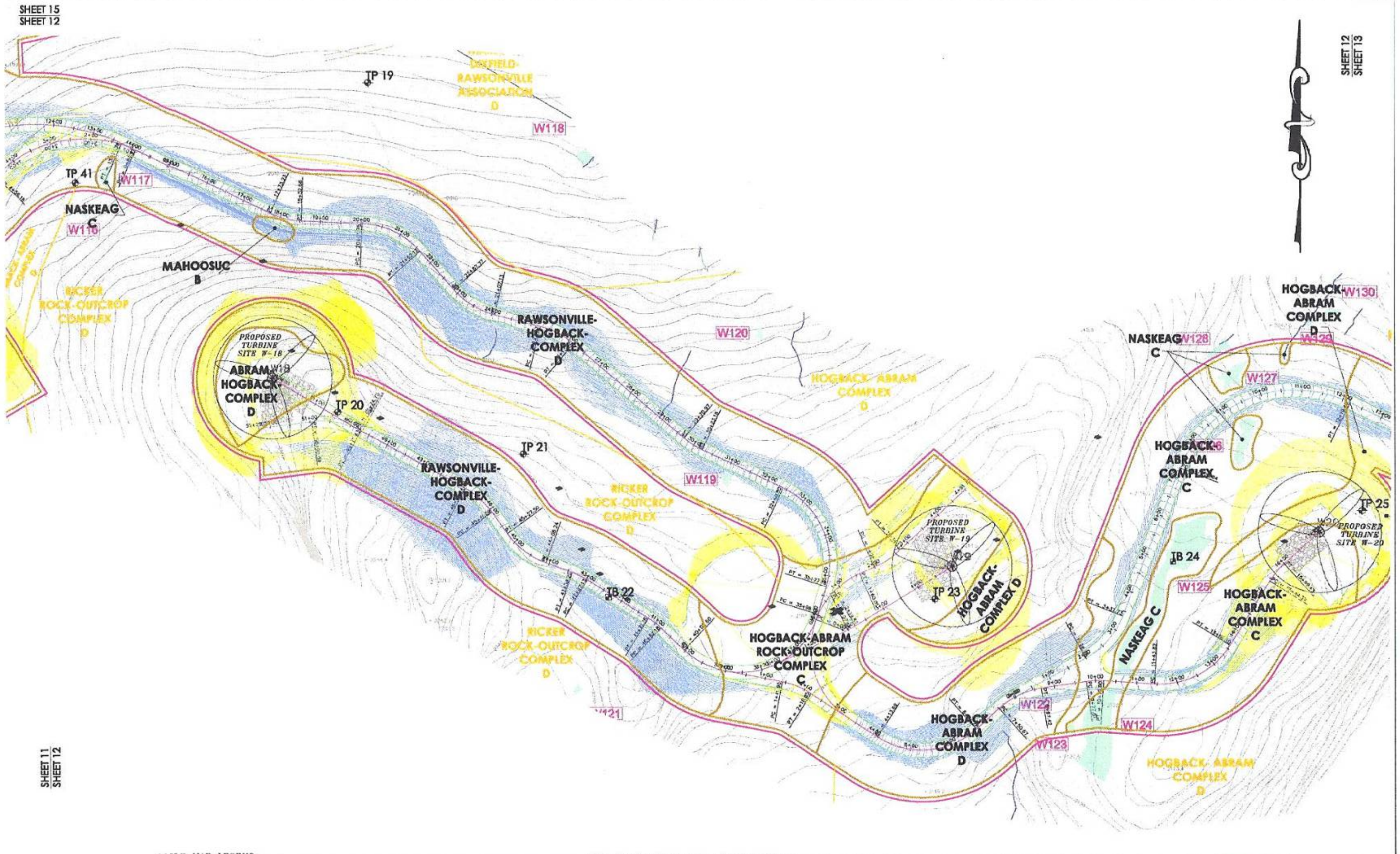

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D	20%+

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

STATE OF MAINE
ALBERT FRICK
66
CERTIFIED
SOIL SCIENTIST

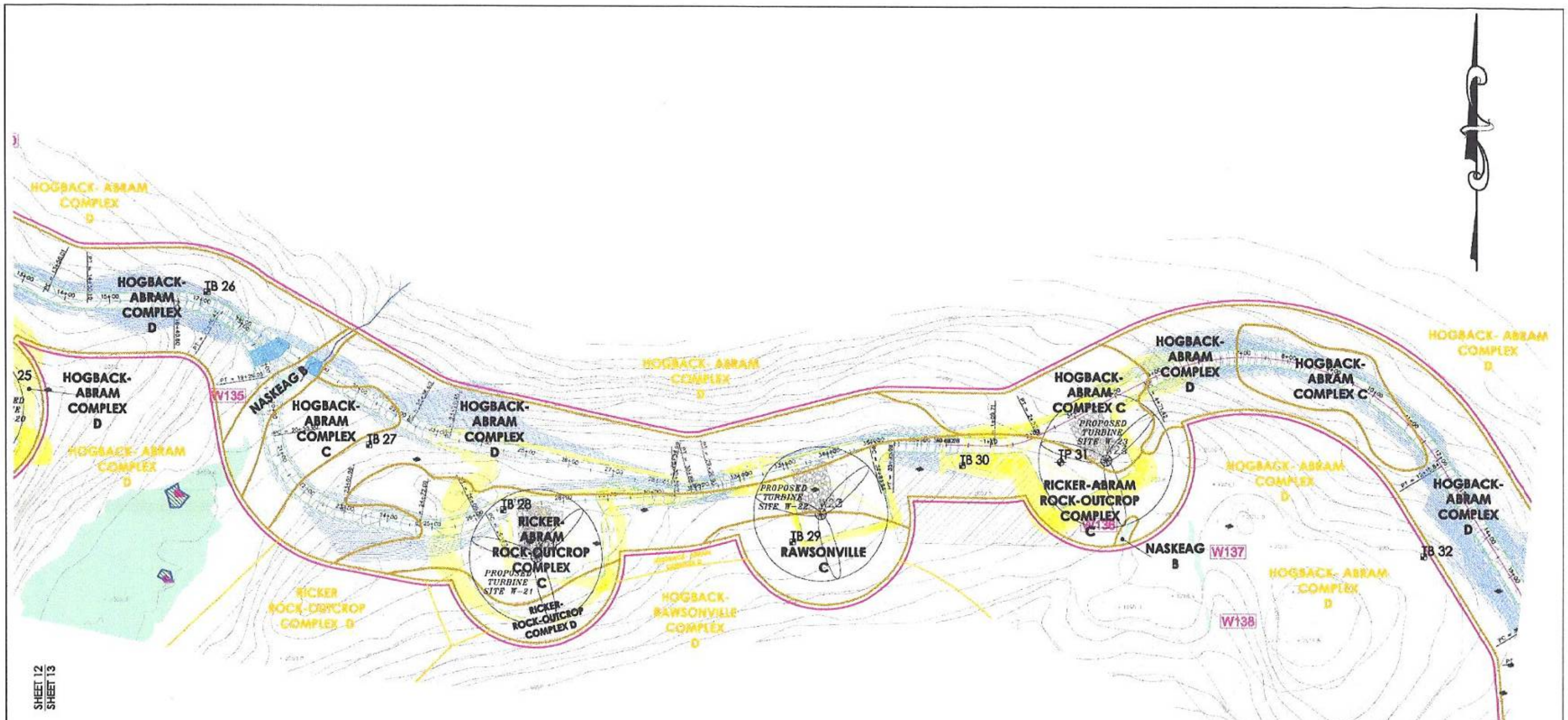
DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 12 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.
Checked By: A.F.
Date: 10/14/09
Scale: 1" = 100'



SHEET 13
SHEET 14

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

SOILS MAP LEGEND:

TP	SOIL TEST PIT
TB	SOIL TEST BORING
●	WETLAND AREA (DELINEATED BY STANTEC)
TP	SOIL TEST PIT (BY STANTEC)
◆	BEDROCK OUTCROP (LOCATED BY G.P.S.)
△	MET TOWER
	WOODS ROAD (EXISTING)
)(	BRIDGE (EXISTING)
	STREAM
	TRAIL (EXISTING)
	CULVERT (EXISTING)
	LIMITS OF SOIL STUDY CORRIDOR AREA FOR ROAD ALIGNMENT
	NRCS SOIL BOUNDARY LINE
DIXFIELD	NRCS SOIL NAME
	CLASS L SOIL BOUNDARY LINE
DIXFIELD	CLASS L SOIL NAME
▨	AREA RECOMMENDED FOR CROSS-DRAINAGE (OXYAQUIC CONDITION, VERY POORLY TO SOMEWHAT POORLY AND/OR NATURAL SWALED, SUBJECT TO SURFACE AND/OR PERCHED GROUNDWATER FLOW DURING SPRING MELT AND TIMES OF HEAVY PRECIPITATION
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SLOPE DESIGNATIONS

A	0-3%
B	3-8%
C	8-20%
D	20%+
E	[illegible]

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

ALBERT FRICK
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DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 13 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.
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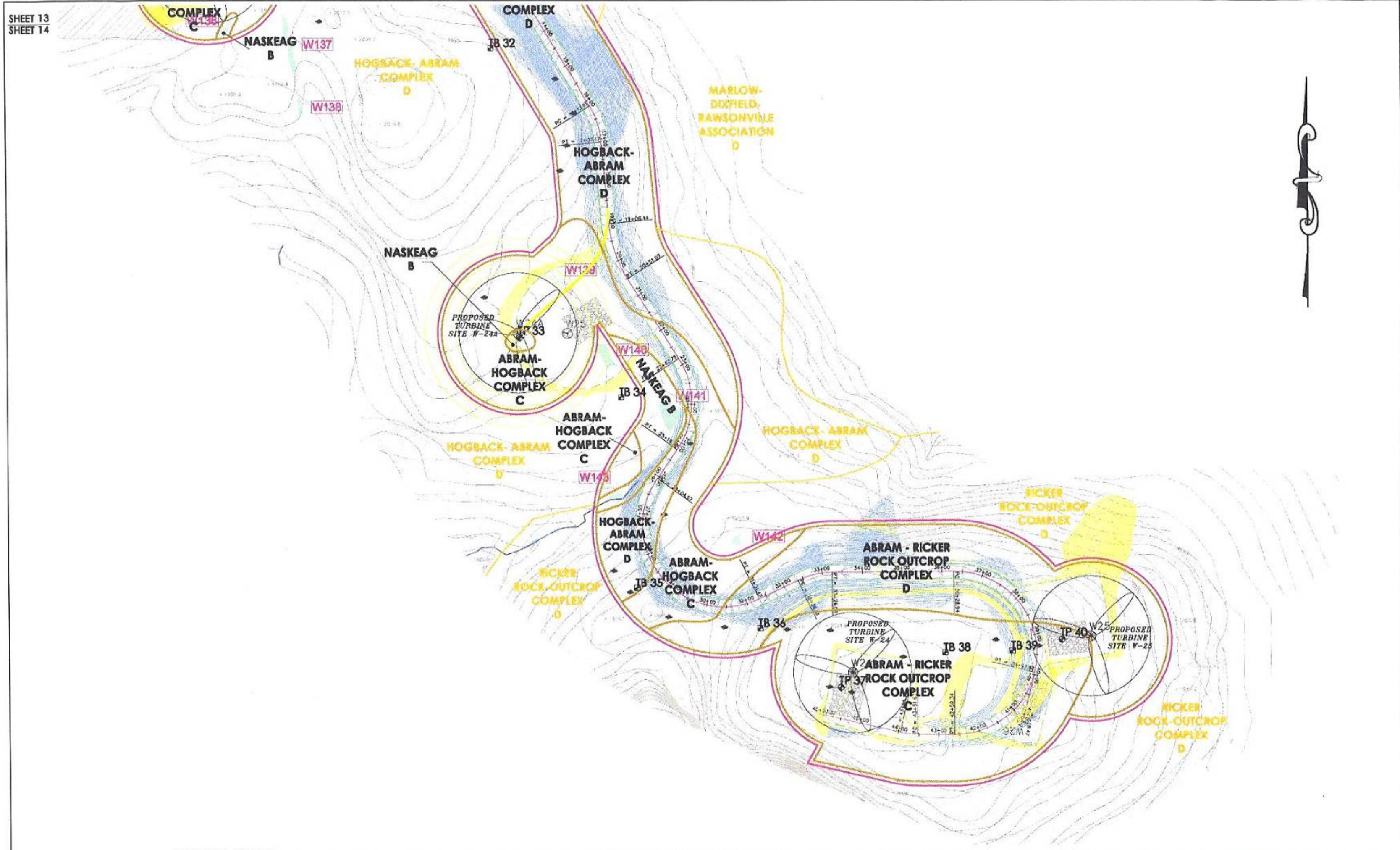

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft

SOILS MAP LEGEND:

- SOIL TEST PIT
- SOIL TEST BORING
- WETLAND AREA (DELINEATED BY STANTEC)
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- BEDROCK OUTCROP (LOCATED BY G.P.S.)
- MET TOWER
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- STREAM
- TRAIL (EXISTING)
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- NRCS SOIL NAME
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SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

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DATE	REVISIONS

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT
HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 14 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

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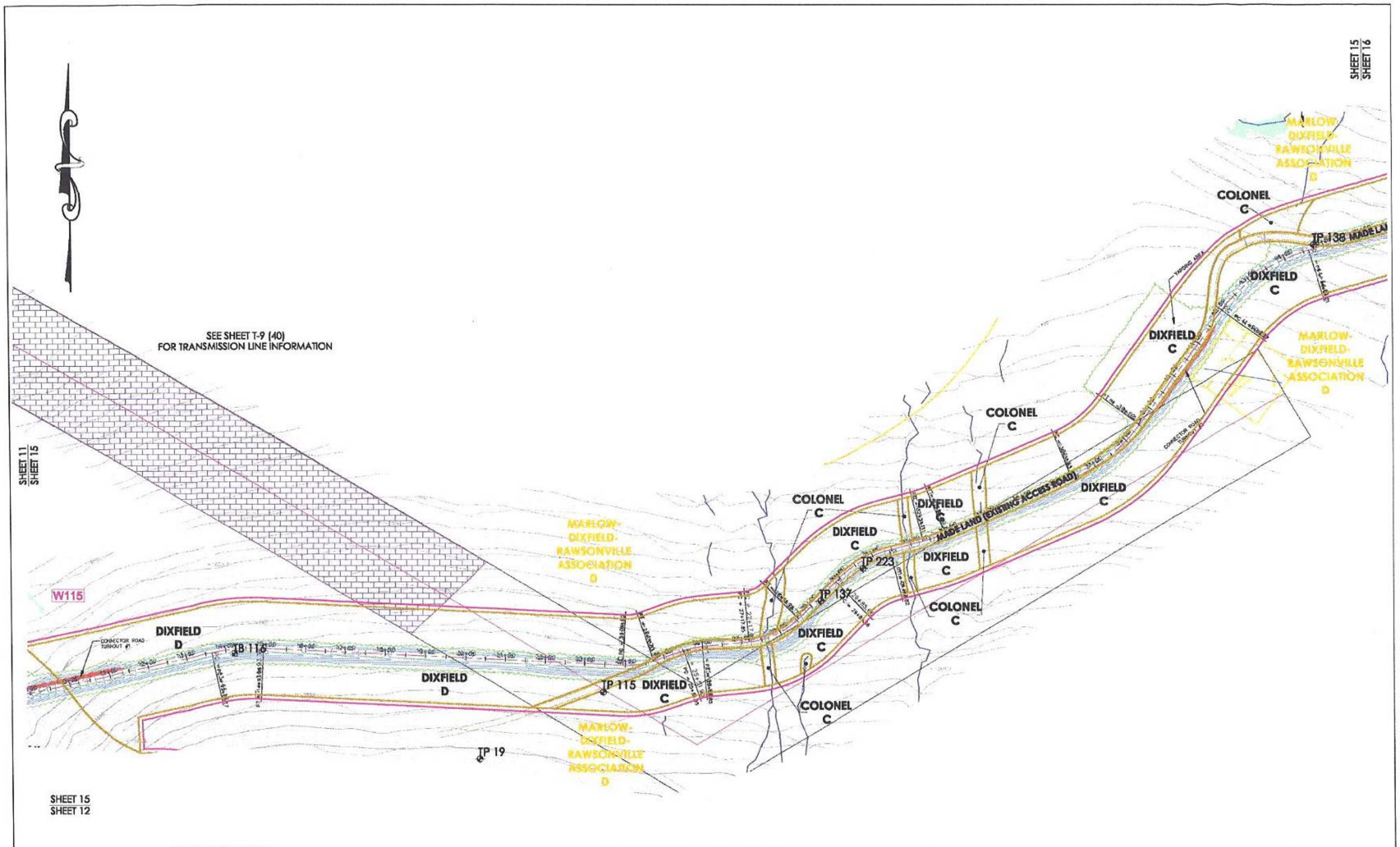

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft

SOILS MAP LEGEND:

- SOIL TEST PIT
- SOIL TEST BORING
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- SOIL TEST PIT (BY STANTEC)
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SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
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D	20%+
E	30%+ [illegible]

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

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ALBERT FRICK 66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 15 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J. Checked By: A.F.
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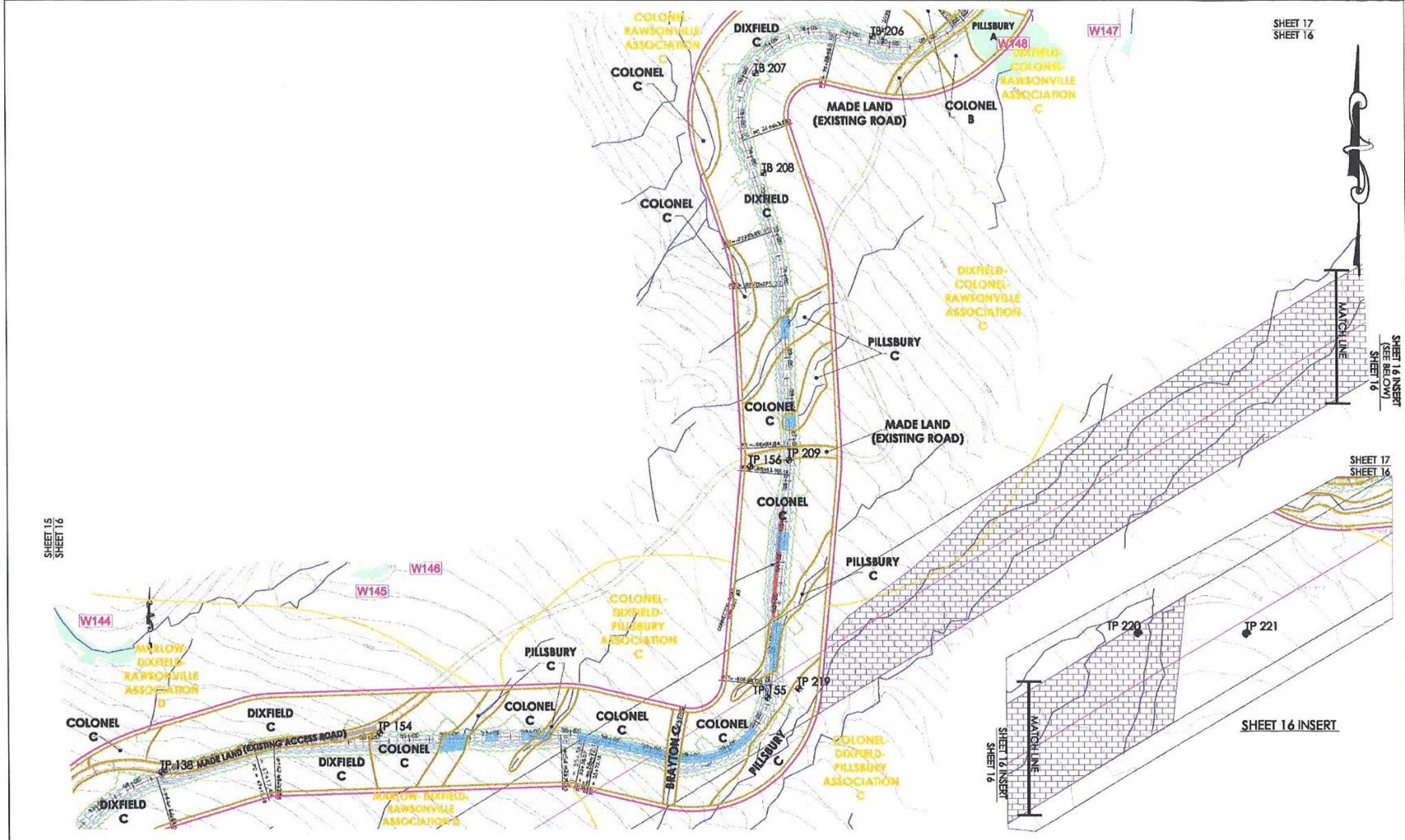

GRAPHIC SCALE

100 0 50 100 200

(IN FEET)
1 inch = 100 ft.

SOILS MAP LEGEND:

TP	SOIL TEST PIT
TB	SOIL TEST BORING
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SLOPE DESIGNATIONS

A	0-3%
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[illegible]	[illegible]

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

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STATE OF MAINE
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DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 16 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

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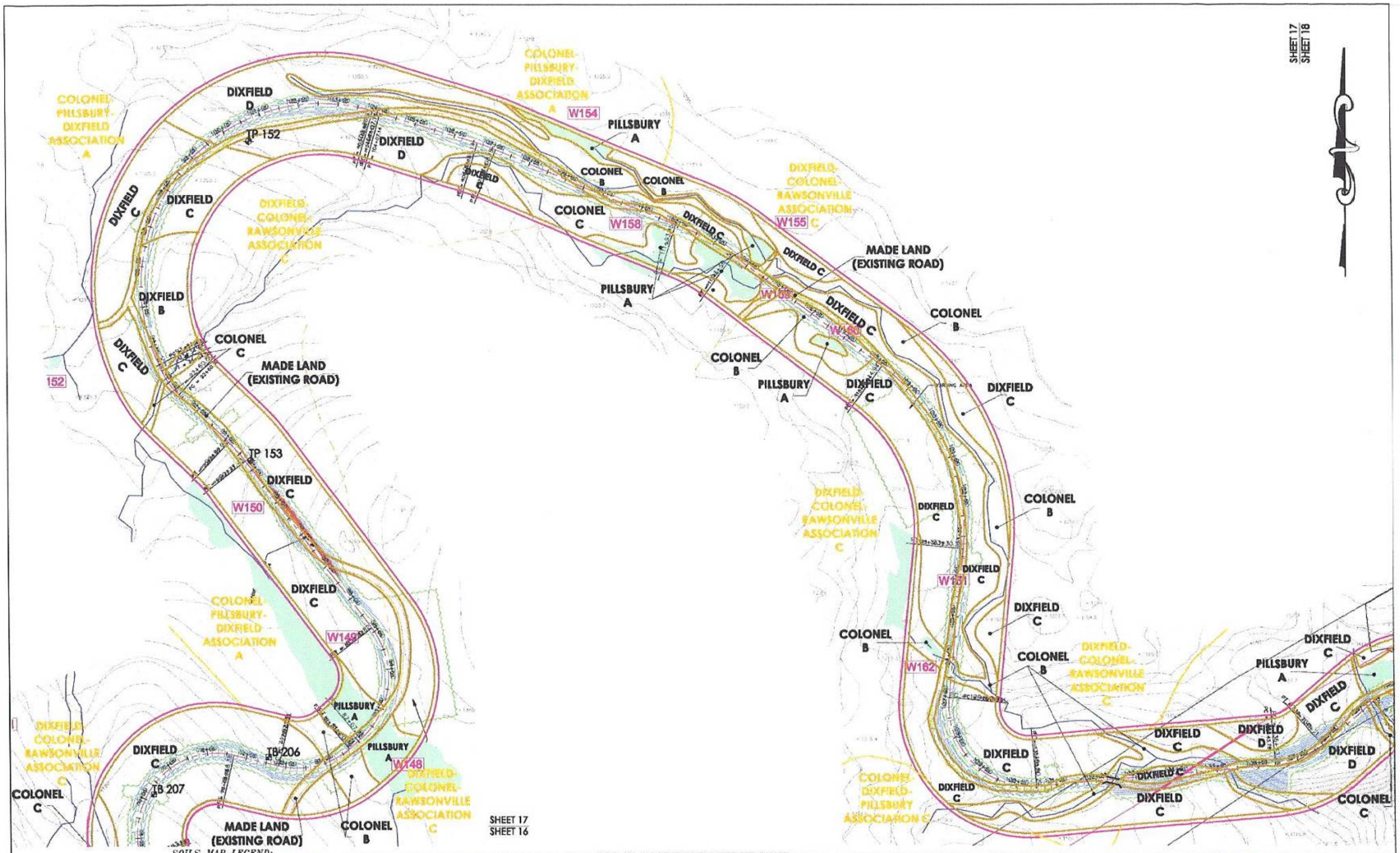

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SLOPE DESIGNATIONS

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GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

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STATE OF MAINE
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CERTIFIED
SOIL SCIENTIST

Albert Frick

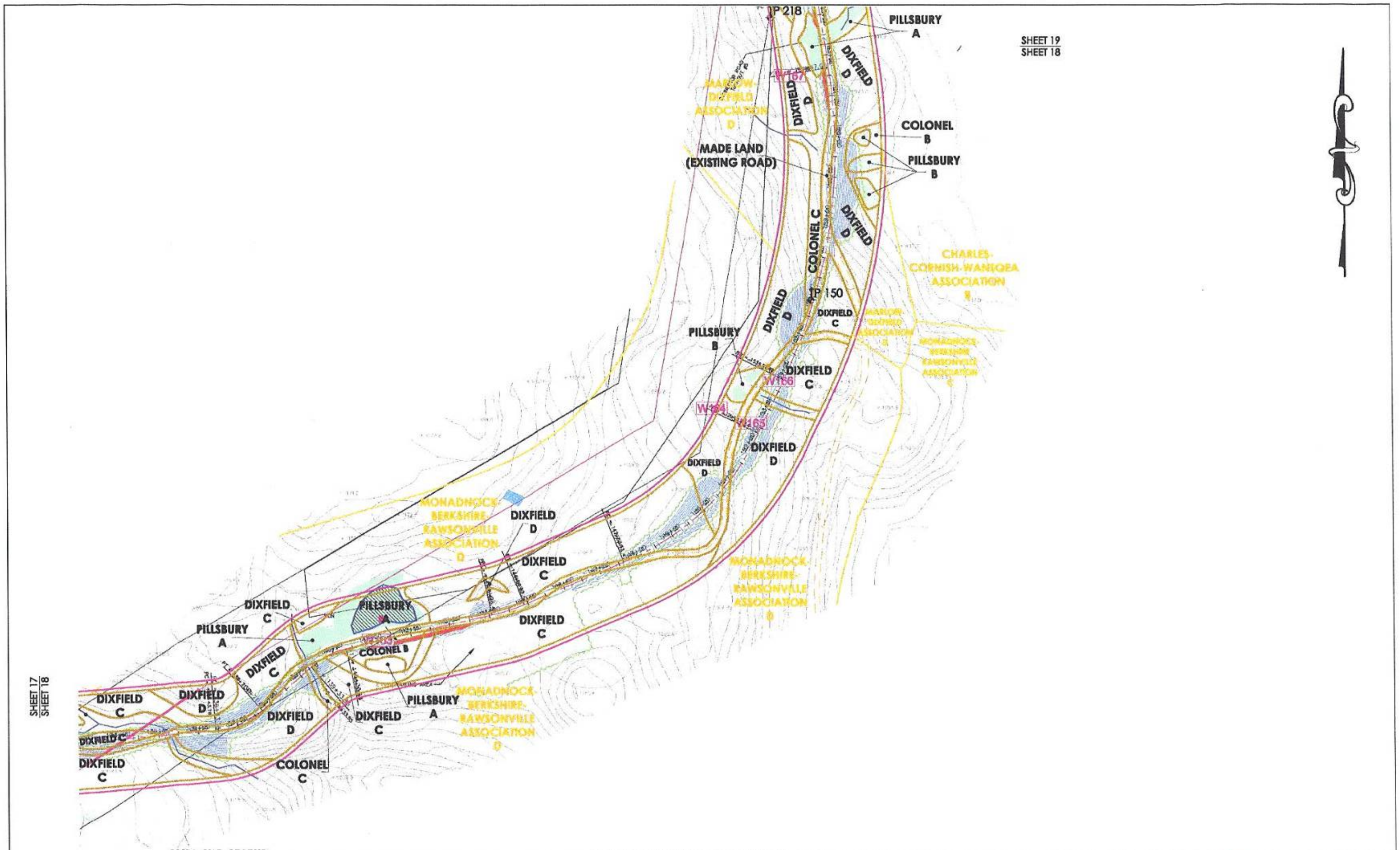
DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 17 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.	Checked By: A.F.
Date: 10/14/09	Scale: 1" = 100'



GRAPHIC SCALE

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SLOPE DESIGNATIONS

A	0-3%
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NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

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ALBERT FRICK
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DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 18 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

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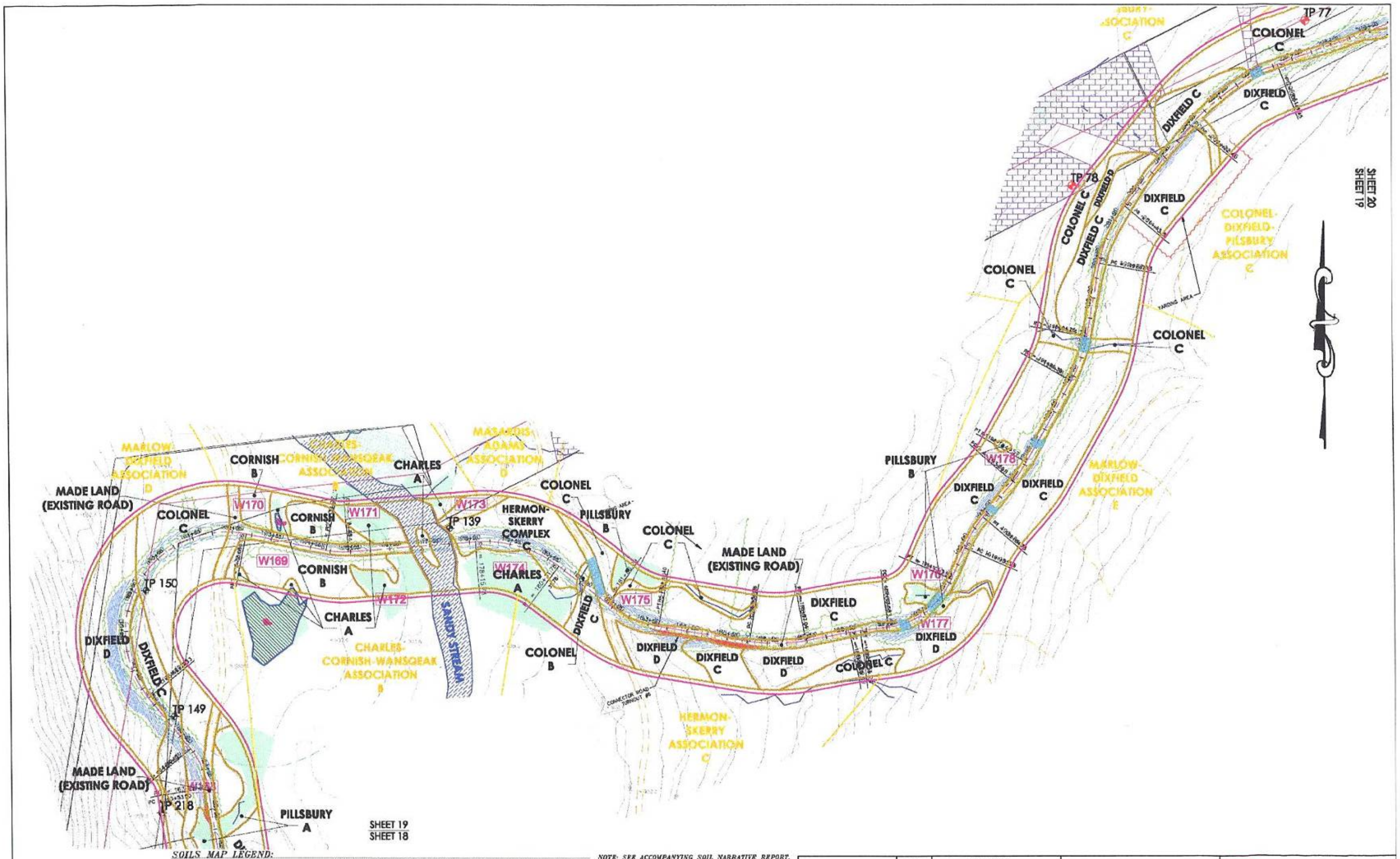

GRAPHIC SCALE

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SLOPE DESIGNATIONS

A	0 - 3%
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[illegible]	[illegible]

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

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ALBERT FRICK 66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
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HIGHLAND PLANTATION &
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SHEET 19 of 40

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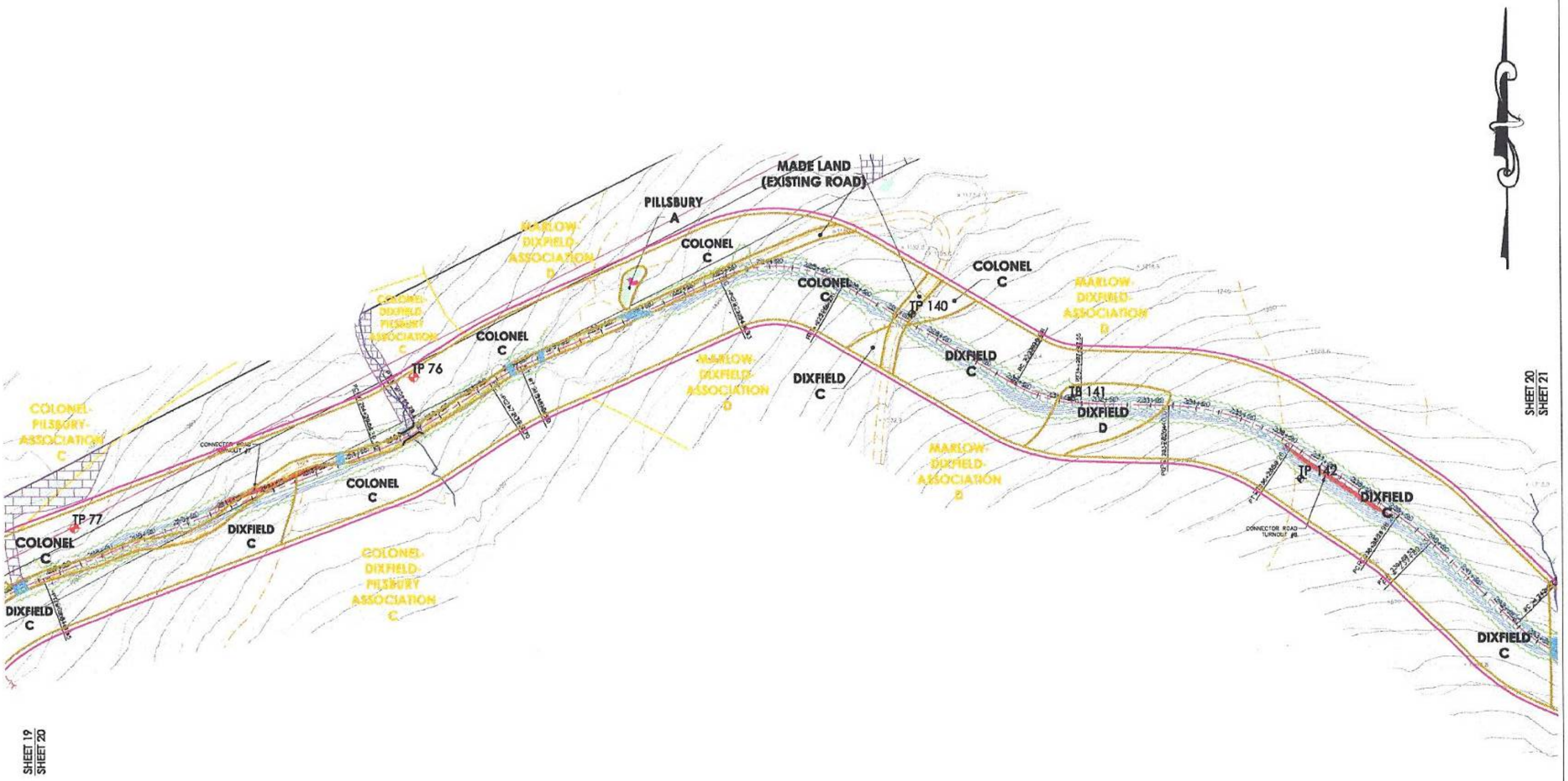

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SLOPE DESIGNATIONS

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NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

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ALBERT FRICK 66

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DATE:	REVISIONS:

SOILS MAP
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HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
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SHEET 20 of 40

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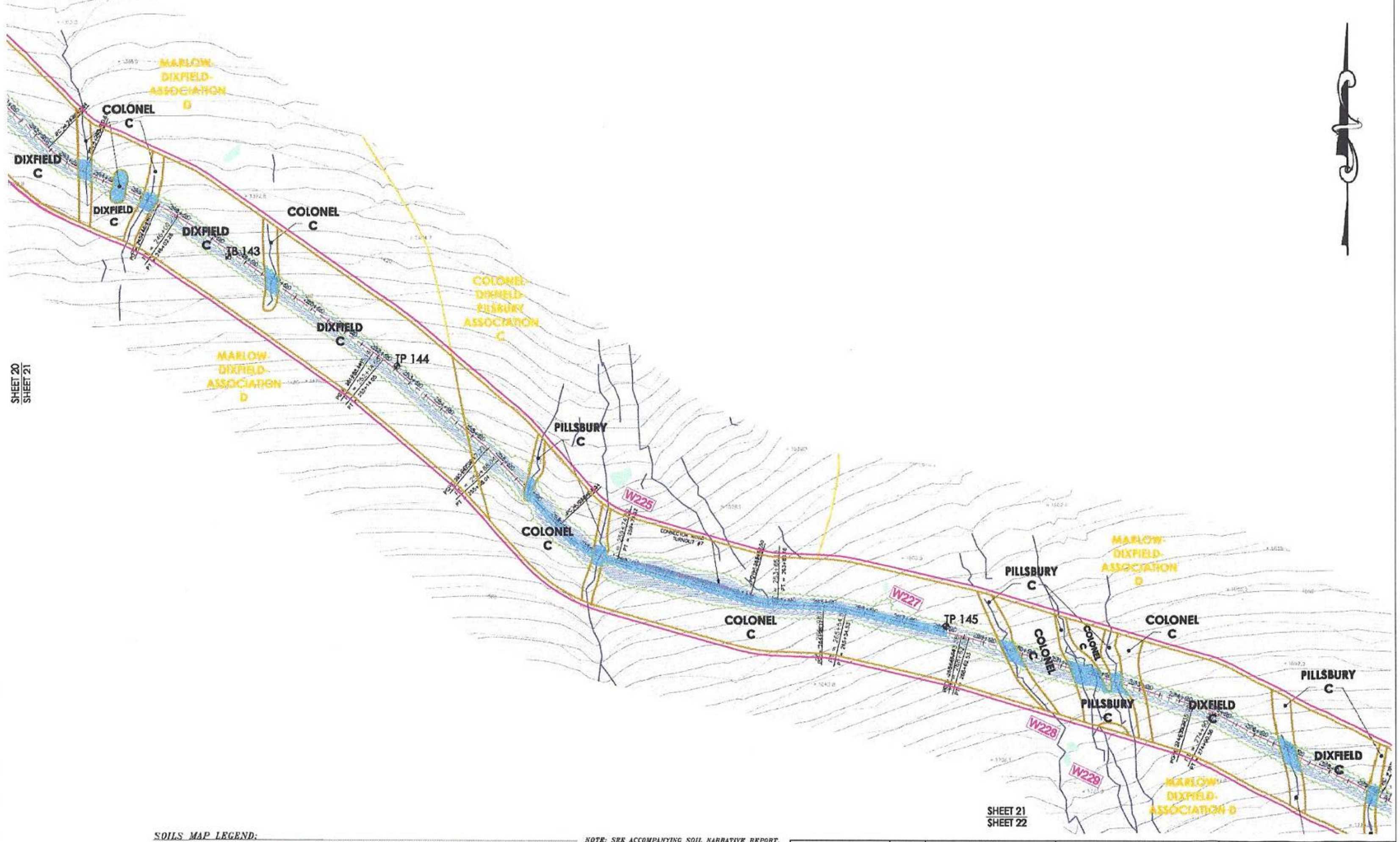

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- AREA RECOMMENDED FOR CROSS-DRAINAGE (OXYAQUIC CONDITION, VERY POORLY TO SOMEWHAT POORLY AND/OR NATURAL SWALED. SUBJECT TO SURFACE AND/OR PERCHED GROUNDWATER FLOW DURING SPRING MELT AND TIMES OF HEAVY PRECIPITATION
- SOIL AREA IN TRANSMISSION LINE CORRIDOR WHICH EXHIBIT SOMEWHAT POORLY TO POORLY DRAINED CONDITION, OXYAQUIC CONDITIONS, OR WATER COURSES WHERE SPECIAL CONSIDERATION FOR SOIL DISTURBANCE BE EXERCISED IF PROPOSED CONSTRUCTION IS DONE DURING UNFROZEN GROUND CONDITIONS, OR DURING WET SOIL CONDITIONS (SEE STANTEC TOOL BOX OF RECOMMENDED TECHNIQUES)

SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+
E	20%+ (Ledge)

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

STATE OF MAINE
ALBERT FRICK
66
CERTIFIED SOIL SCIENTIST

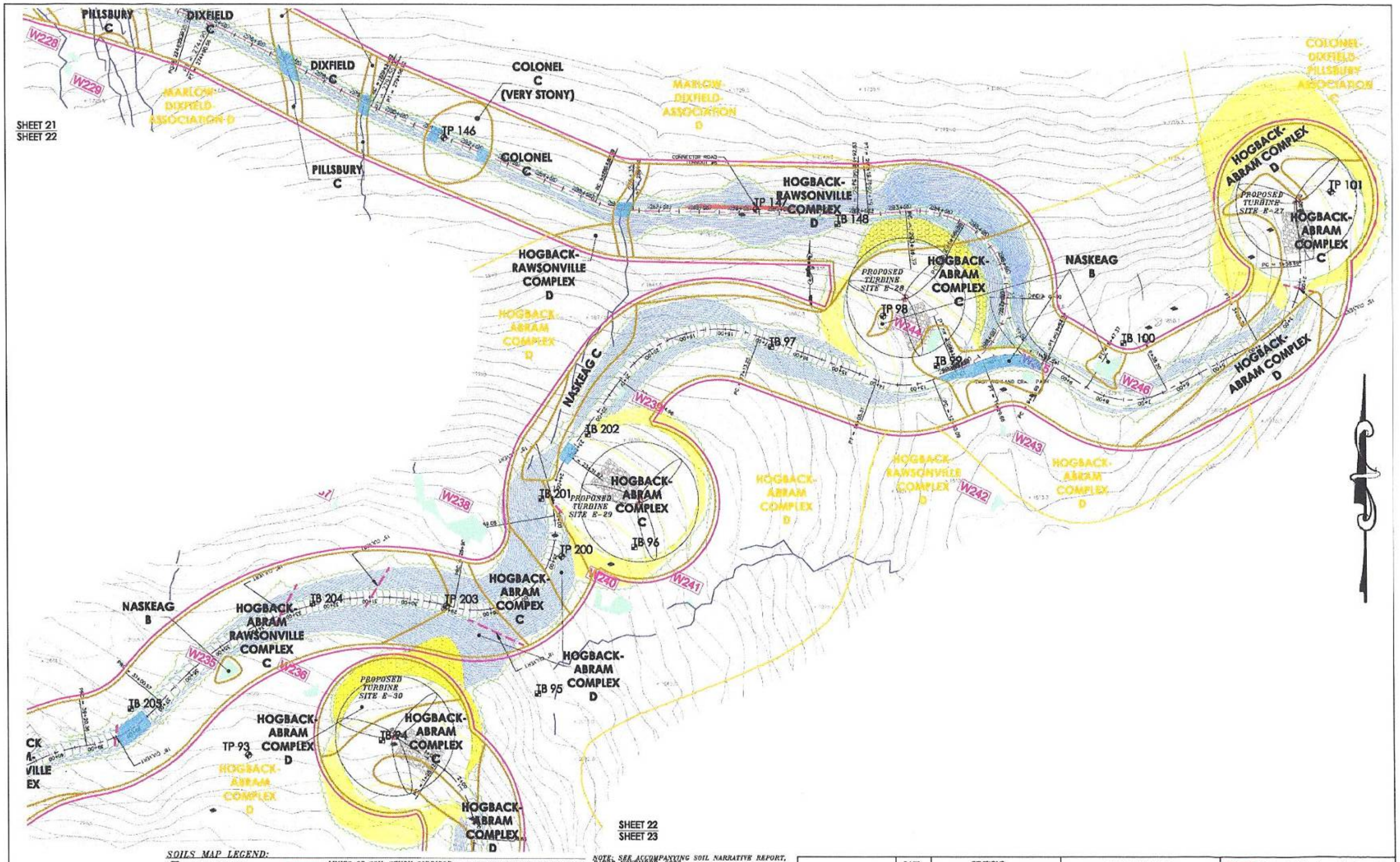
DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 21 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.
Checked By: A.F.
Date: 10/14/09
Scale: 1" = 100'



GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

SOILS MAP LEGEND:

TP	SOIL TEST PIT
TB	SOIL TEST BORING
🟩	WETLAND AREA (DELINEATED BY STANTEC)
TP	SOIL TEST PIT (BY STANTEC)
◆	BEDROCK OUTCROP (LOCATED BY G.P.S.)
△	MET TOWER
	WOODS ROAD (EXISTING)
)(	BRIDGE (EXISTING)
	STREAM
	TRAIL (EXISTING)
	CULVERT (EXISTING)
	LIMITS OF SOIL STUDY CORRIDOR AREA FOR ROAD ALIGNMENT
	NRCS SOIL BOUNDARY LINE
DIXFIELD	NRCS SOIL NAME
	CLASS L SOIL BOUNDARY LINE
DIXFIELD	CLASS L SOIL NAME
▨	AREA RECOMMENDED FOR CROSS-DRAINAGE (OXYAQUIC CONDITION, VERY POORLY TO SOMEWHAT POORLY AND/OR NATURAL SWALES, SUBJECT TO SURFACE AND/OR PERCHED GROUNDWATER FLOW DURING SPRING MELT AND TIMES OF HEAVY PRECIPITATION
▦	SOIL AREA IN TRANSMISSION LINE CORRIDOR WHICH EXHIBIT SOMEWHAT POORLY TO POORLY DRAINED CONDITION, OXYAQUIC CONDITIONS, OR WATER COURSES WHERE SPECIAL CONSIDERATION FOR SOIL DISTURBANCE BE EXERCISED IF PROPOSED CONSTRUCTION IS DONE DURING UNFROZEN GROUND CONDITIONS, OR DURING WET SOIL CONDITIONS (SEE STANTEC TOOL BOX OF RECOMMENDED TECHNIQUES)

SLOPE DESIGNATIONS

A	0-3%
B	3-8%
C	8-20%
D	20%+

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

STATE OF MAINE
ALBERT FRICK
66
CERTIFIED
SOIL SCIENTIST

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 22 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.
Checked By: A.F.
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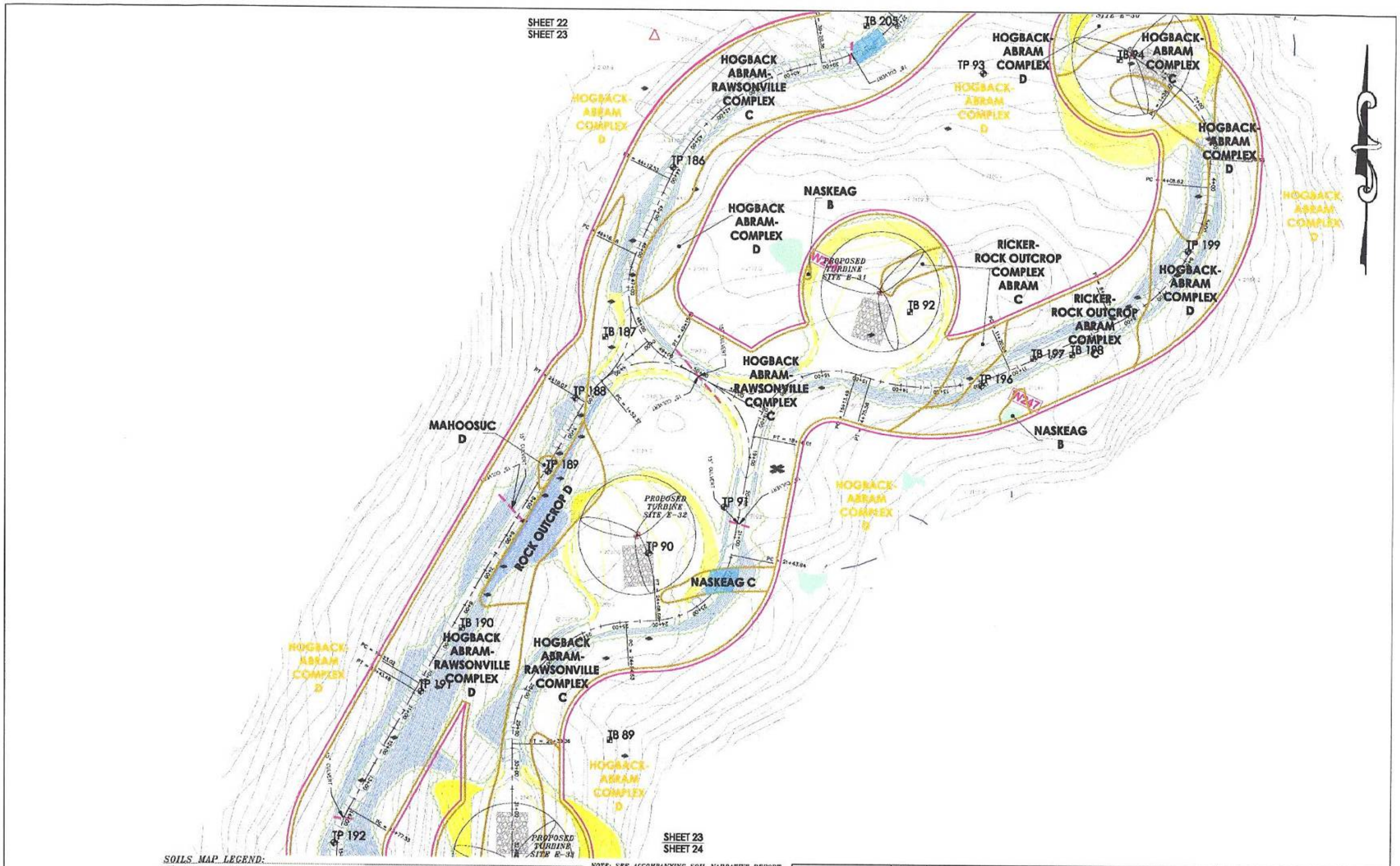
Scale: 1" = 100'



GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

SOILS MAP LEGEND:

- TP SOIL TEST PIT
- TB SOIL TEST BORING
- WETLAND AREA (DELINEATED BY STANTEC)
- TP SOIL TEST PIT (BY STANTEC)
- BEDROCK OUTCROP (LOCATED BY G.P.S.)
- △ MET TOWER
- WOODS ROAD (EXISTING)
- BRIDGE (EXISTING)
- STREAM
- TRAIL (EXISTING)
- CULVERT (EXISTING)
- LIMITS OF SOIL STUDY CORRIDOR AREA FOR ROAD ALIGNMENT
- NRCS SOIL BOUNDARY LINE
- DIXFIELD NRCS SOIL NAME
- CLASS L SOIL BOUNDARY LINE
- DIXFIELD CLASS L SOIL NAME
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SLOPE DESIGNATIONS

A	0-3%
B	3-8%
C	8-20%
D	20%+

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

ALBERT FRICK 66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 23 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

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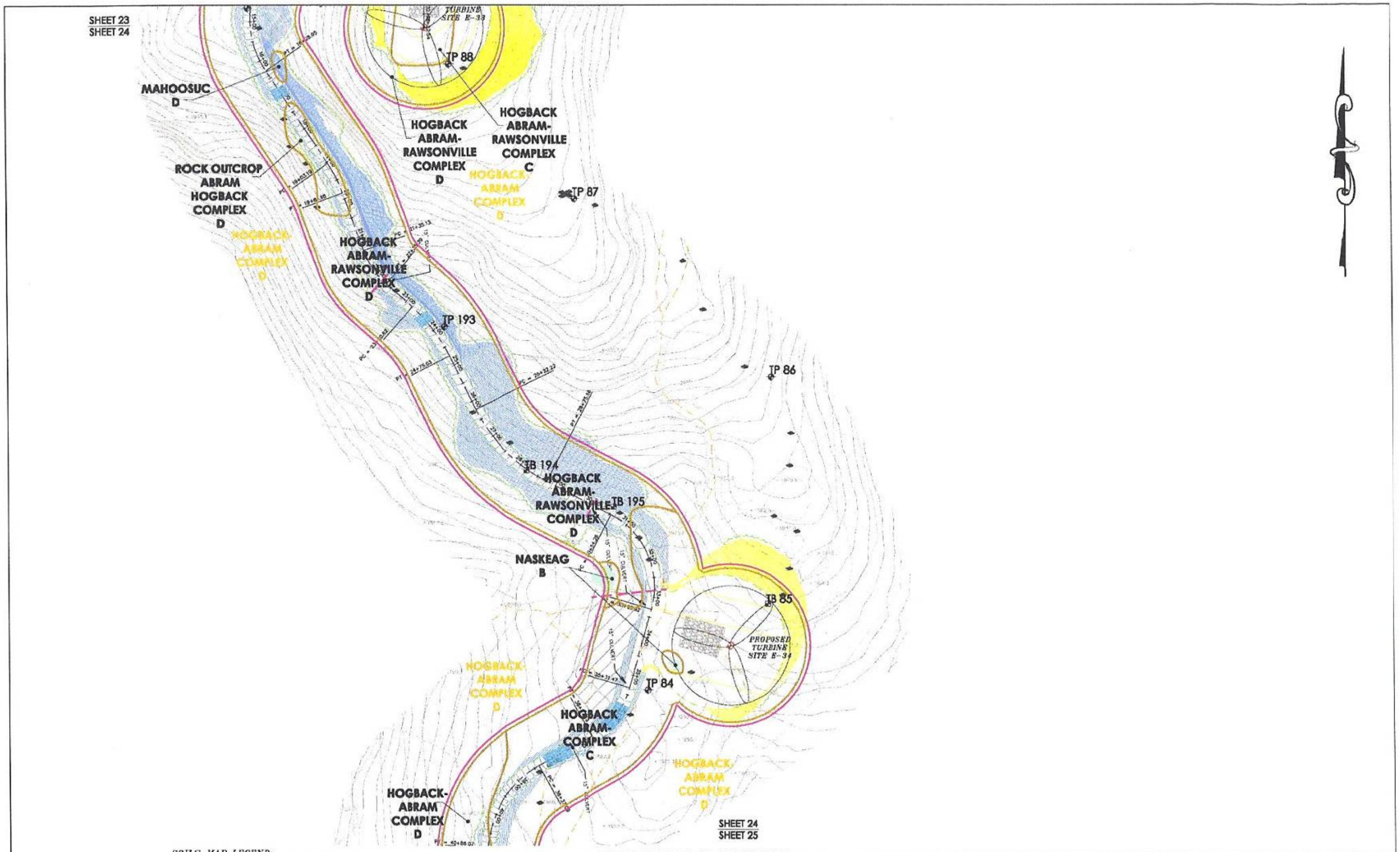

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

SOILS MAP LEGEND:

TP	SOIL TEST PIT
TB	SOIL TEST BORING
	WETLAND AREA (DELINEATED BY STANTEC)
TP	SOIL TEST PIT (BY STANTEC)
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△	MET TOWER
	WOODS ROAD (EXISTING)
	BRIDGE (EXISTING)
	STREAM
	TRAIL (EXISTING)
	CULVERT (EXISTING)
	LIMITS OF SOIL STUDY CORRIDOR AREA FOR ROAD ALIGNMENT
	NRCS SOIL BOUNDARY LINE
	NRCS SOIL NAME
	CLASS L SOIL BOUNDARY LINE
DIXFIELD	CLASS L SOIL NAME
▨	AREA RECOMMENDED FOR CROSS-DRAINAGE

(OXYAQUIC CONDITION, VERY POORLY TO SOMEWHAT POORLY AND/OR NATURAL SWALED. SUBJECT TO SURFACE AND/OR PERCHED GROUNDWATER FLOW DURING SPRING MELT AND TIMES OF HEAVY PRECIPITATION

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SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+
E	[illegible]

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

ALBERT FRICK
66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 24 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

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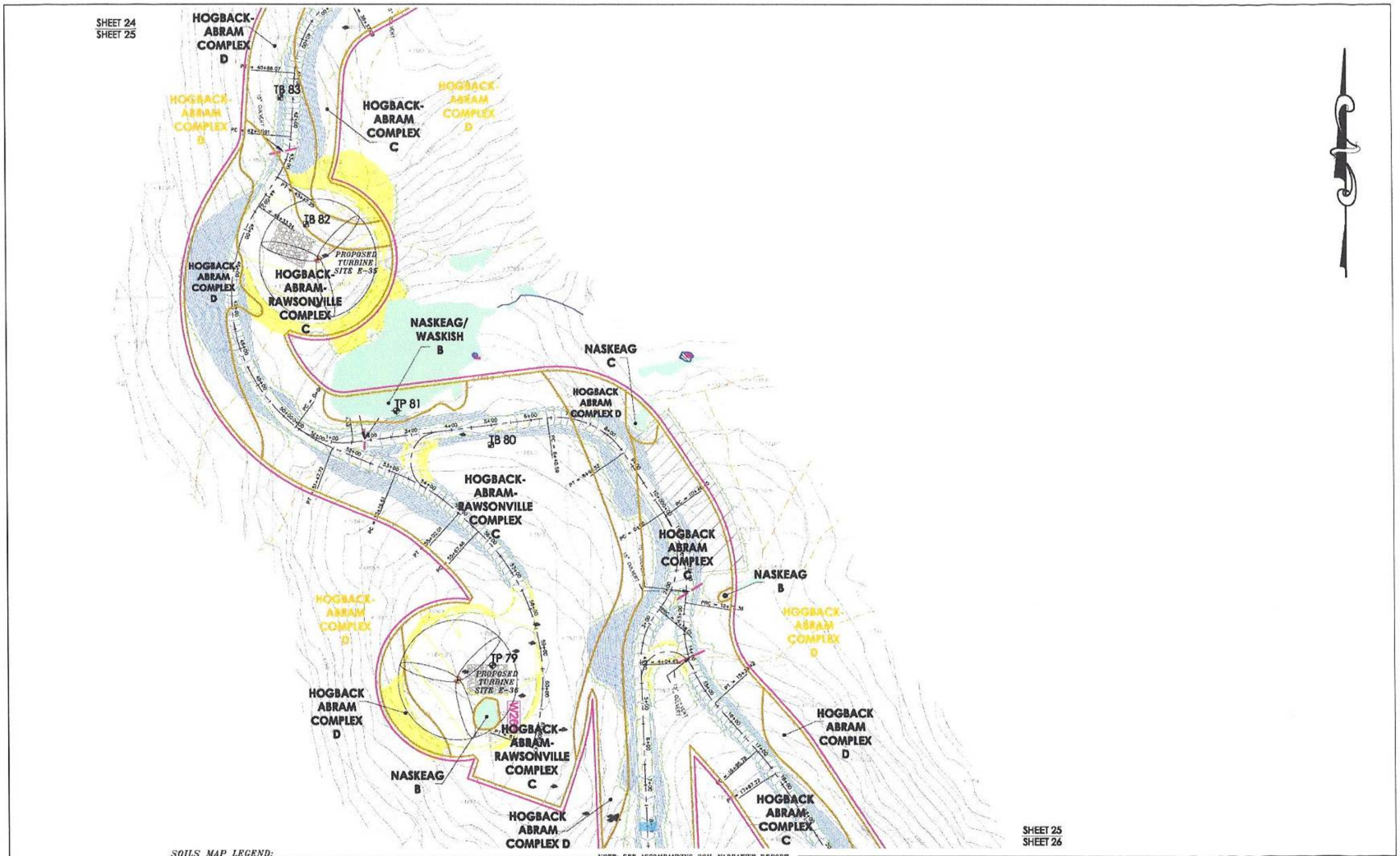

SOILS MAP LEGEND:

- SOIL TEST PIT
- SOIL TEST BORING
- WETLAND AREA (DELINEATED BY STANTEC)
- SOIL TEST PIT (BY STANTEC)
- BEDROCK OUTCROP (LOCATED BY G.P.S.)
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SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+
E	20%+ [illegible]

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

ALBERT FRICK 66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT
HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 25 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

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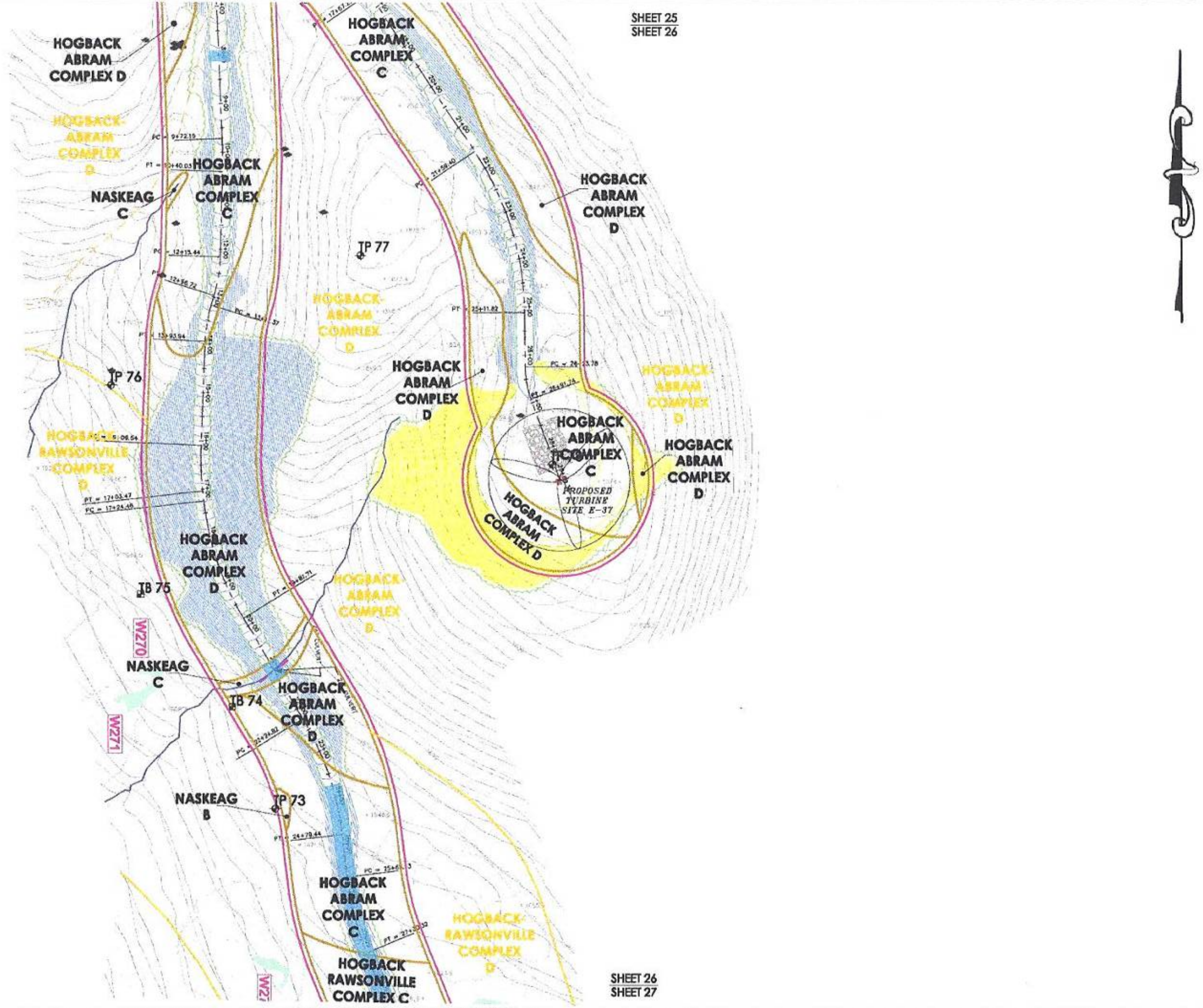

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

SOILS MAP LEGEND:

- TP SOIL TEST PIT
- TB SOIL TEST BORING
- WETLAND AREA (DELINEATED BY STANTEC)
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- ◆ BEDROCK OUTCROP (LOCATED BY G.P.S.)
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SLOPE DESIGNATIONS

A	0-3%
B	3-8%
C	8-20%
D	20%+

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

STATE OF MAINE
ALBERT FRICK
66
CERTIFIED SOIL SCIENTIST
Albert Frick

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT
HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 26 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.
Checked By: A.F.
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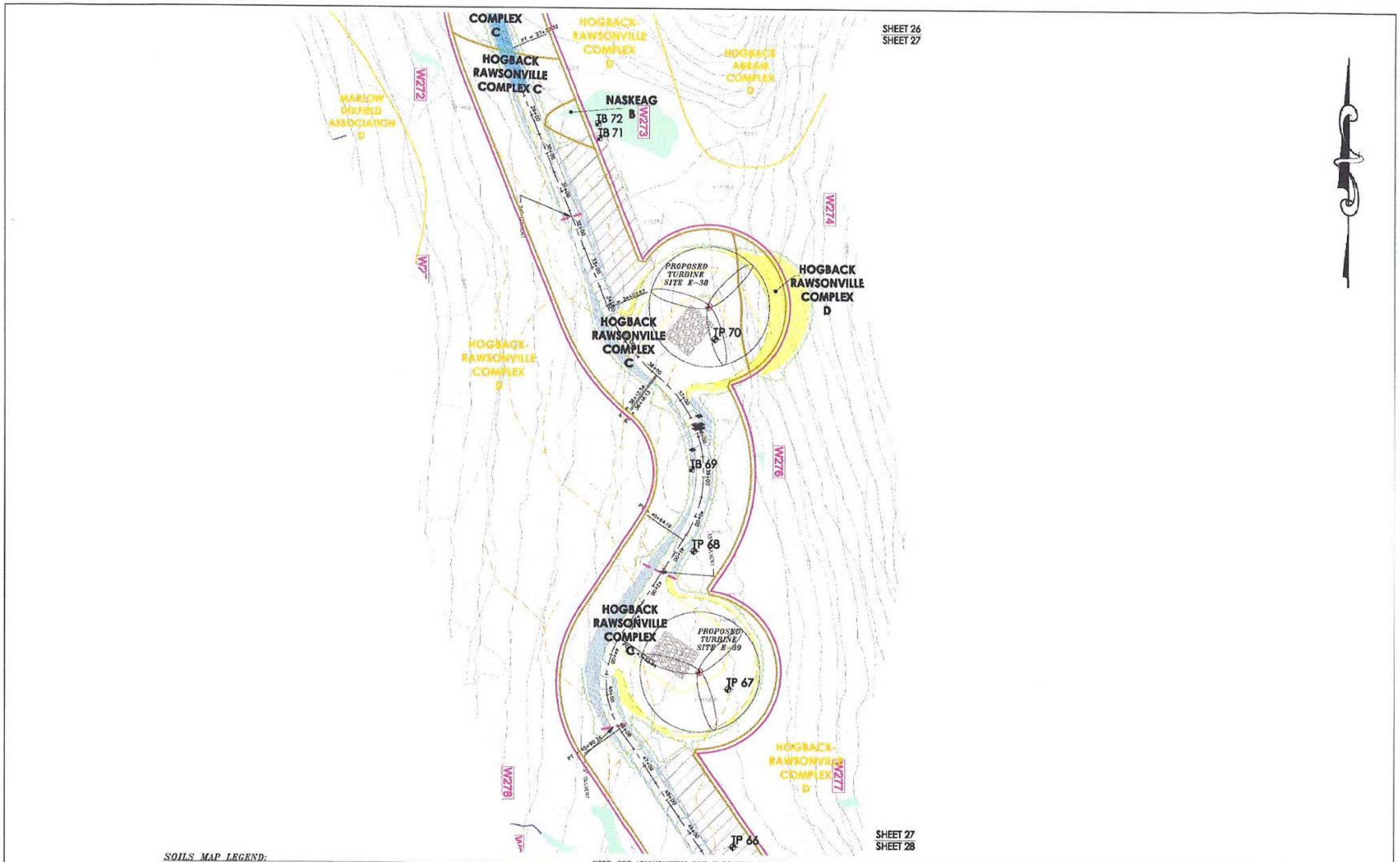

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

SOILS MAP LEGEND:

- SOIL TEST PIT
- SOIL TEST BORING
- WETLAND AREA (DELINEATED BY STANTEC)
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SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

ALBERT FRICK 66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 27 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

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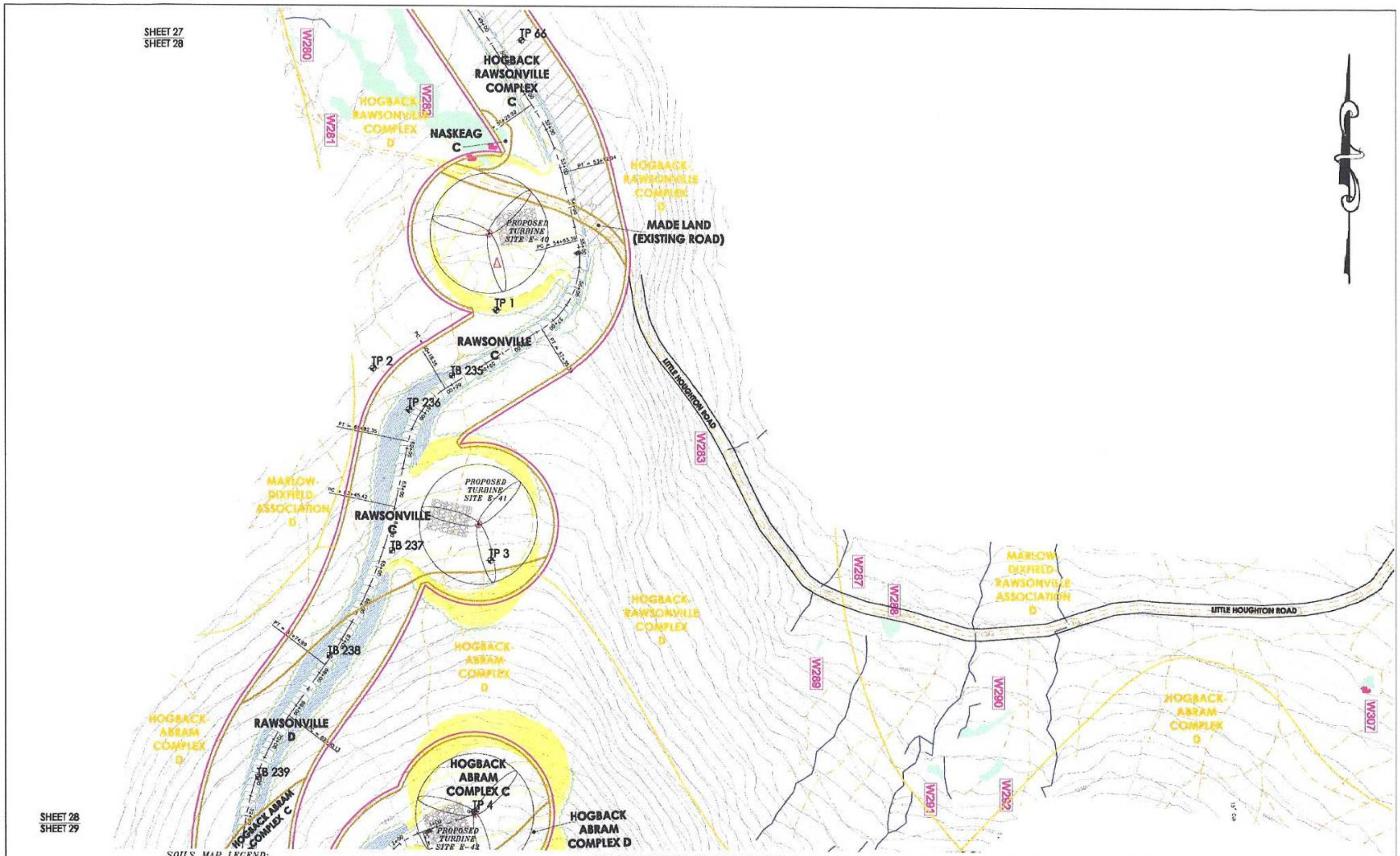

GRAPHIC SCALE

(IN FEET)
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SOILS MAP LEGEND:

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SLOPE DESIGNATIONS

A	0-3%
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NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

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ALBERT FRICK
65

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 28 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

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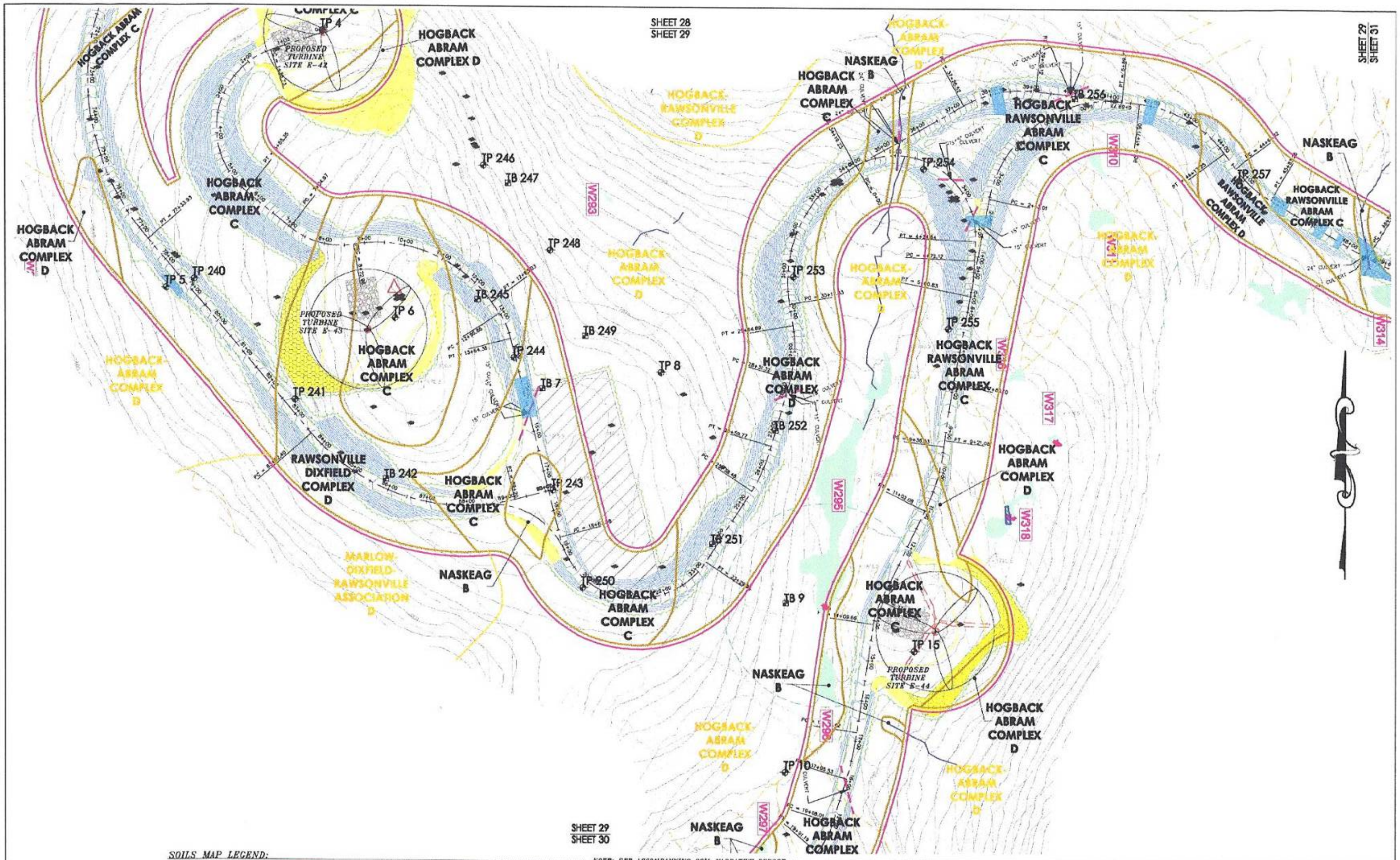

SOILS MAP LEGEND:

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SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

ALBERT FRICK 66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 29 of 40

Albert Frick Associates, Inc.
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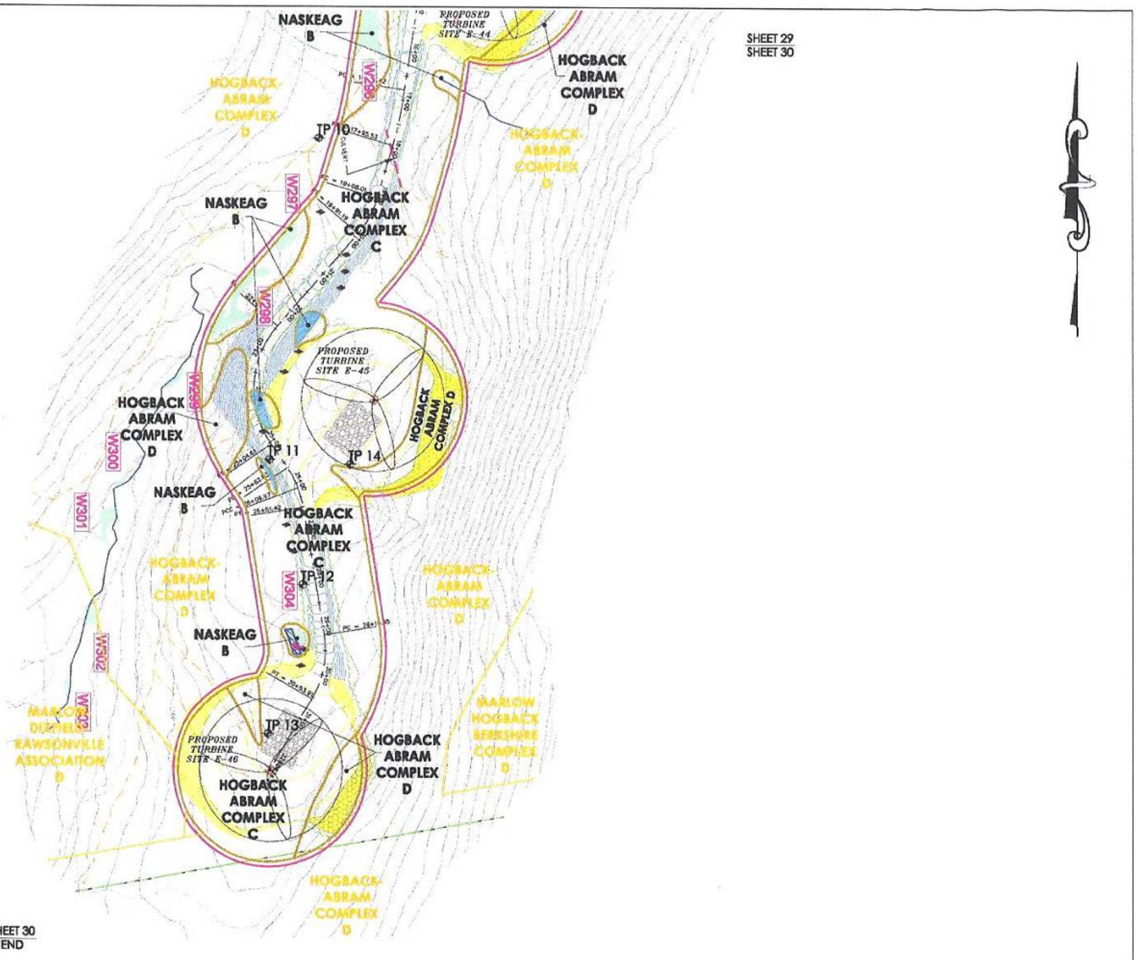

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SOILS MAP LEGEND:

SOIL TEST PIT
SOIL TEST BORING
WETLAND AREA (DELINEATED BY STANTEC)
SOIL TEST PIT (BY STANTEC)
BEDROCK OUTCROP (LOCATED BY G.P.S.)
MET TOWER
WOODS ROAD (EXISTING)
BRIDGE (EXISTING)
STREAM
TRAIL (EXISTING)
CULVERT (EXISTING)

LIMITS OF SOIL STUDY CORRIDOR AREA FOR ROAD ALIGNMENT
NRCS SOIL BOUNDARY LINE
DIXFIELD NRCS SOIL NAME
CLASS L SOIL BOUNDARY LINE
DIXFIELD CLASS L SOIL NAME
AREA RECOMMENDED FOR CROSS-DRAINAGE
(GLEYAQUIC CONDITION, VERY POORLY TO SOMEWHAT POORLY AND/OR NATURAL SWALES, SUBJECT TO SURFACE AND/OR PERCHED GROUNDWATER FLOW DURING SPRING MELT AND TIMES OF HEAVY PRECIPITATION

SOIL AREA IN TRANSMISSION LINE CORRIDOR WHICH EXHIBIT SOMEWHAT POORLY TO POORLY DRAINED CONDITION, GLEYAQUIC CONDITIONS, OR WATER COURSES WHERE SPECIAL CONSIDERATION FOR SOIL DISTURBANCE BE EXERCISED IF PROPOSED CONSTRUCTION IS DONE DURING UNFROZEN GROUND CONDITIONS, OR DURING WET SOIL CONDITIONS (SEE STANTEC TOOL BOX OF RECOMMENDED TECHNIQUES)

SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+
D	20%+ DIXFIELD

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

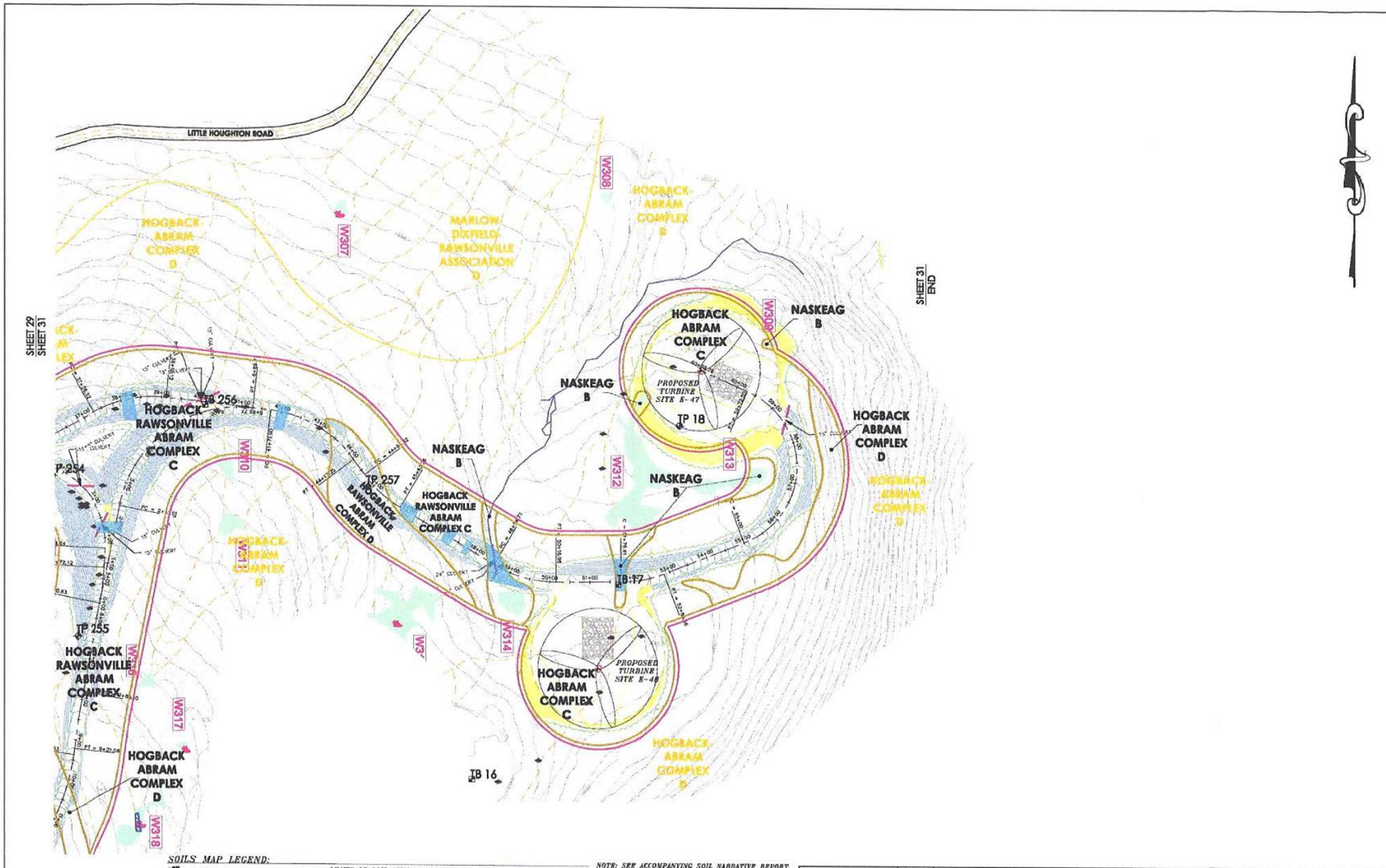
STATE OF MAINE
ALBERT FRICK
66
CERTIFIED SOIL SCIENTIST

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT
HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 30 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.
Checked by: A.F.
Date: 10/14/09
Scale: 1" = 100'



SOILS MAP LEGEND:

- SOIL TEST PIT
- SOIL TEST BORING
- WETLAND AREA (DELINEATED BY STANTEC)
- SOIL TEST PIT (BY STANTEC)
- BEDROCK OUTCROP (LOCATED BY G.P.S.)
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GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

SLOPE DESIGNATIONS

A	0-3%
B	3-8%
C	8-20%
D	20%+

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

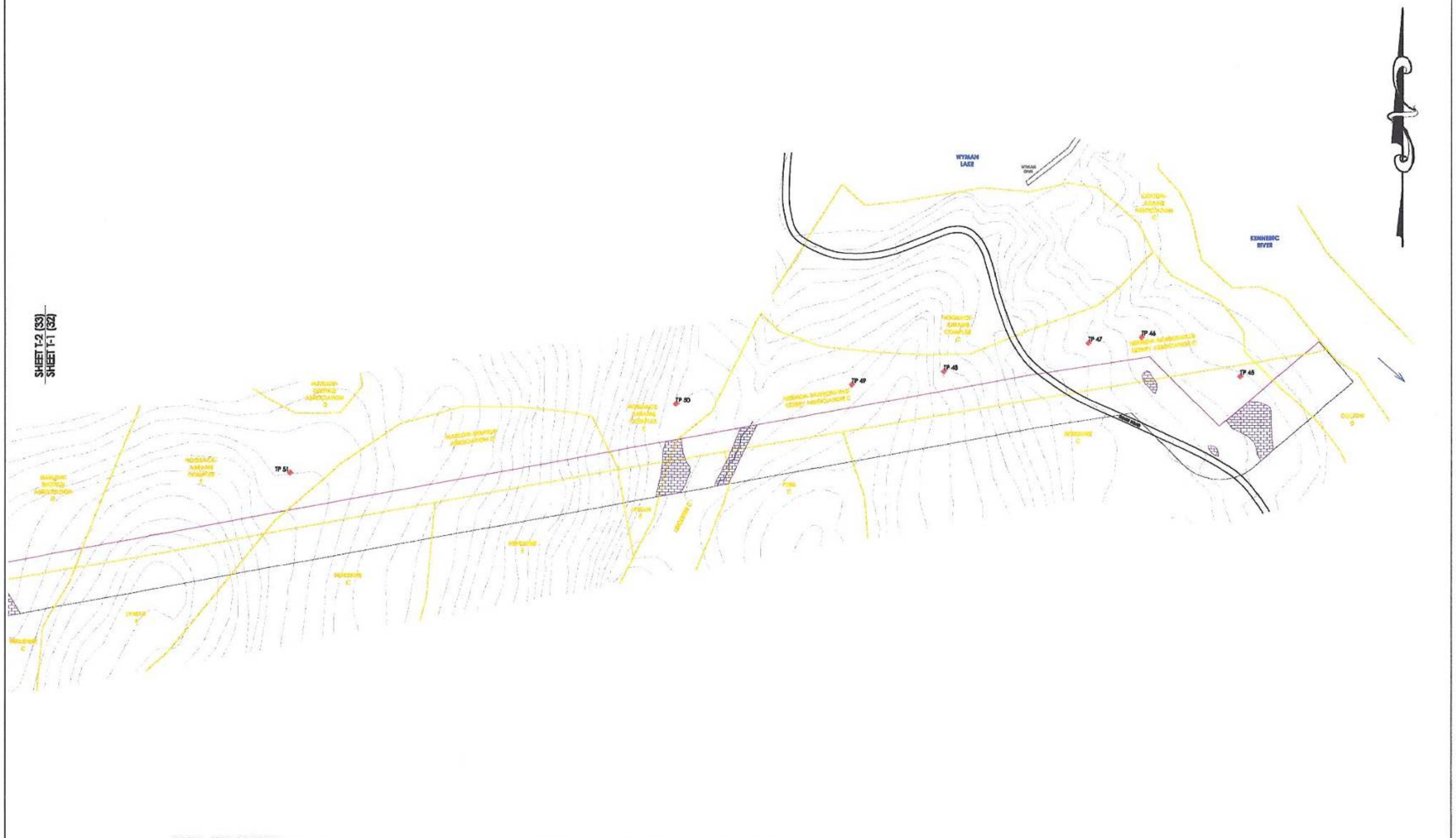
ALBERT FRICK 66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT
HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET 31 of 40

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.
Checked By: A.F.
Date: 10/14/09
Scale: 1" = 100'



GRAPHIC SCALE

(IN FEET)
1 inch = 200 ft.

SOILS MAP LEGEND:

- SOIL TEST PIT
- SOIL TEST BORING
- WETLAND AREA (DELINEATED BY STANTEC)
- SOIL TEST PIT (BY STANTEC)
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SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "D" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

STATE OF MAINE
ALBERT FRICK
66
CERTIFIED SOIL SCIENTIST

DATE:	REVISIONS:

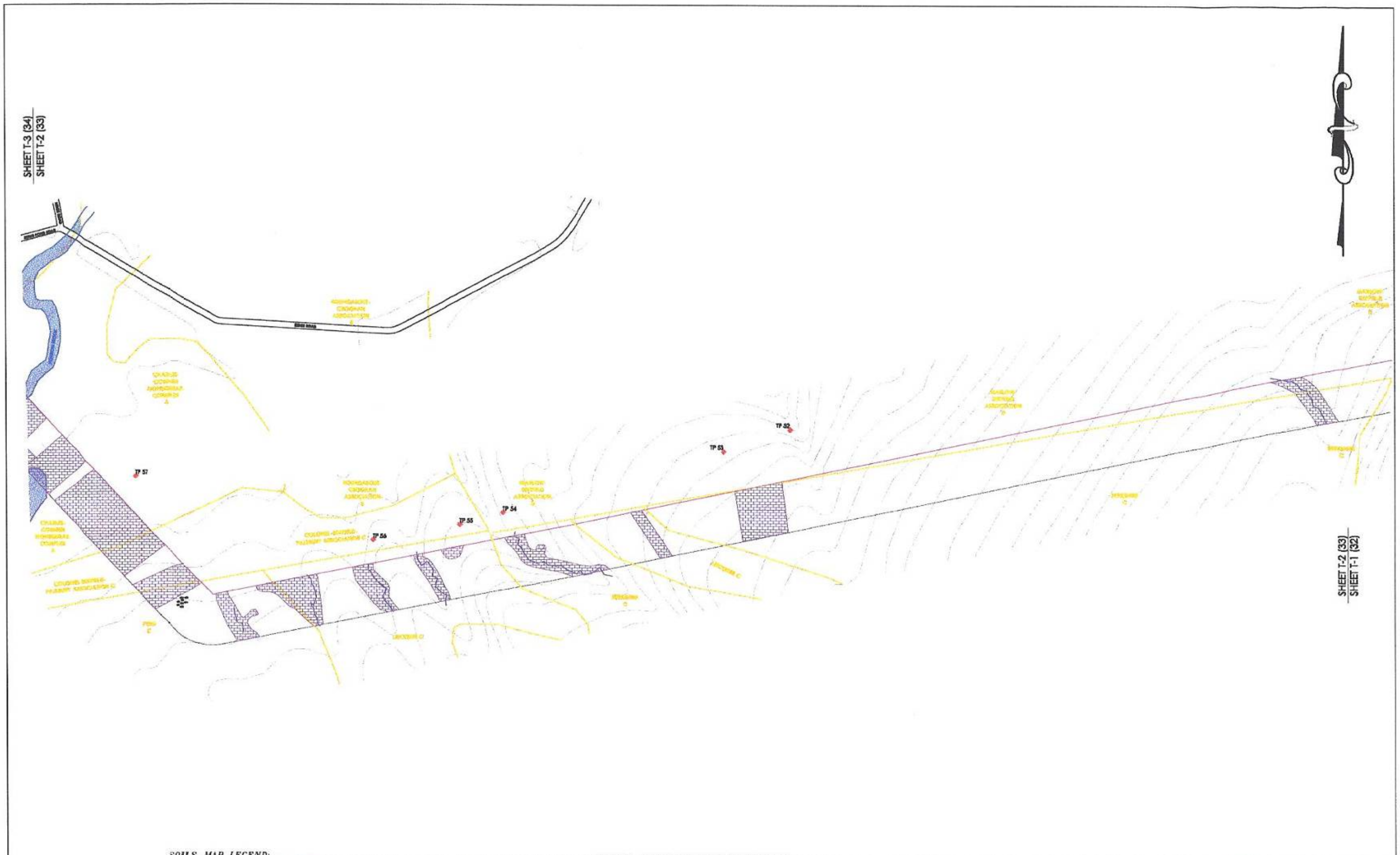
SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME

SHEET T-1 (32 of 40)

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.
Checked By: A.F.
Date: 10/14/09
Scale: 1" = 200'



GRAPHIC SCALE

(IN FEET)
1 inch = 200 ft.

SOILS MAP LEGEND:

	SOIL TEST PIT
	SOIL TEST BORING
	WETLAND AREA (DELINEATED BY STANTEC)
	SOIL TEST PIT (BY STANTEC)
	BEDROCK OUTCROP (LOCATED BY G.P.S.)
△	MET TOWER
	WOODS ROAD (EXISTING)
	BRIDGE (EXISTING)
	STREAM
	TRAIL (EXISTING)
	CULVERT (EXISTING)
	LIMITS OF SOIL STUDY CORRIDOR AREA FOR ROAD ALIGNMENT
	NRCS SOIL BOUNDARY LINE
	NRCS SOIL NAME
	CLASS L SOIL BOUNDARY LINE
DIXFIELD	CLASS L SOIL NAME
▨	AREA RECOMMENDED FOR CROSS-DRAINAGE (OXYAQUIC CONDITION, VERY POORLY TO SOMEWHAT POORLY AND/OR NATURAL SWALES, SUBJECT TO SURFACE AND/OR PERCHED GROUNDWATER FLOW DURING SPRING MELT AND TIMES OF HEAVY PRECIPITATION
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SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+
[illegible]	[illegible]

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

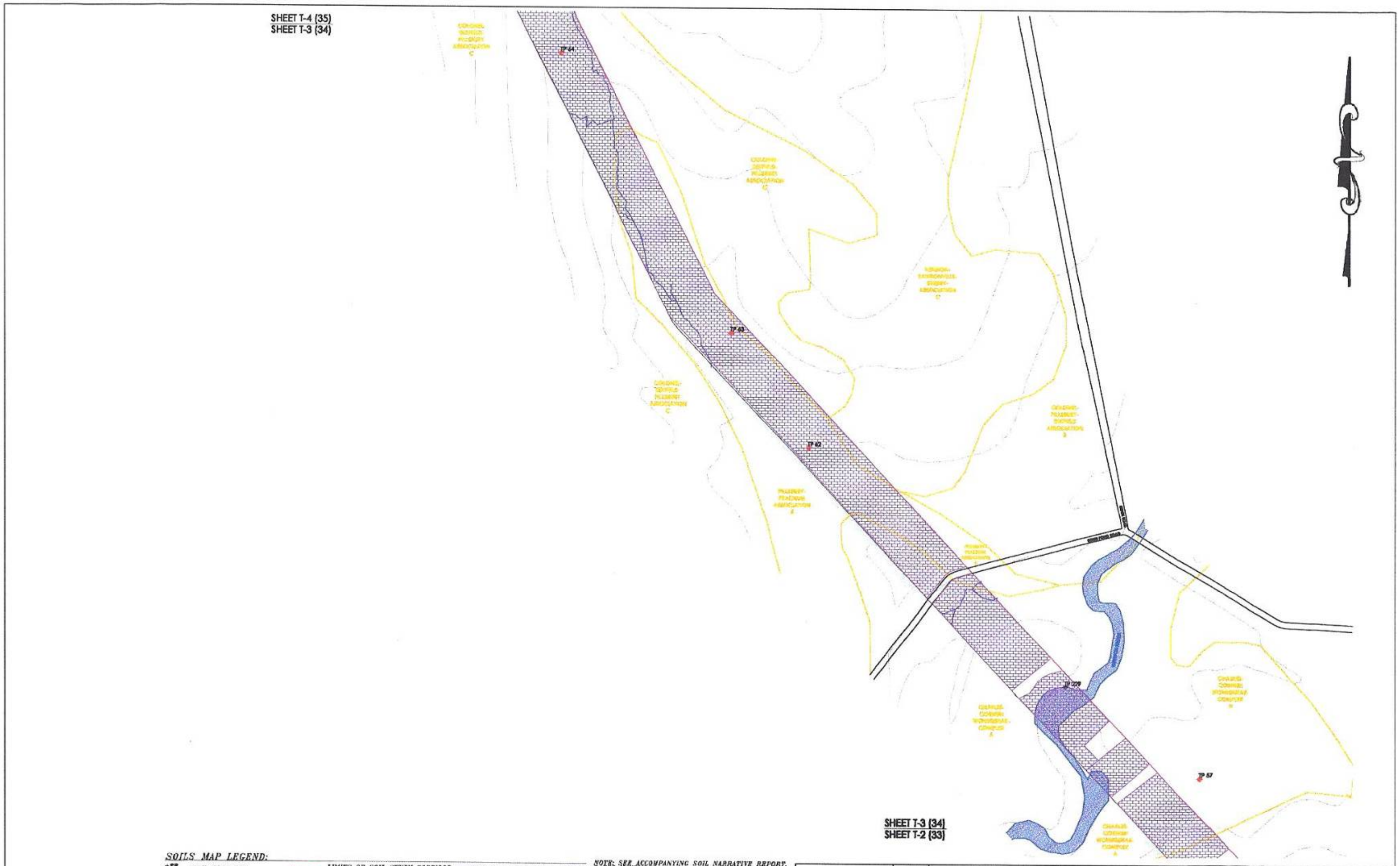
ALBERT FRICK 66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT
HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET T-2 (33 of 40)

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.
Checked By: A.F.
Date: 10/14/09
Scale: 1" = 200'



GRAPHIC SCALE

200 0 100 200 400

(IN FEET)
1 inch = 200 ft.

SOILS MAP LEGEND:

- SOIL TEST PIT
- SOIL TEST BORING
- WETLAND AREA (DELINEATED BY STANTEC)
- SOIL TEST PIT (BY STANTEC)
- BEDROCK OUTCROP (LOCATED BY G.P.S.)
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SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+
E	[illegible]

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

ALBERT FRICK
66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET T-3 (34 of 40)

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.	Checked By: A.F.
Date: 10/14/09	Scale: 1" = 200'

GRAPHIC SCALE
(IN FEET)
1 inch = 200 ft.

SOILS MAP LEGEND:

- SOIL TEST PIT
- SOIL TEST BORING
- WETLAND AREA (DELINEATED BY STANTEC)
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- WOODS ROAD (EXISTING)
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SLOPE DESIGNATIONS

A	0-3%
B	3-8%
C	8-20%
D	20%+
F	20%+ [illegible]

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

ALBERT FRICK 65
Albert Frick

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET T-4 (35 of 40)

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.
Checked By: A.F.
Date: 10/14/09
Scale: 1" = 200'

GRAPHIC SCALE

(IN FEET)
1 inch = 200 ft.

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SLOPE DESIGNATIONS

A	0 - 3%
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C	8 - 20%
D	20%+

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

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ALBERT FRICK 66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET T-5 (36 of 40)

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.
Checked By: A.F.
Date: 10/14/09
Scale: 1" = 200'

GRAPHIC SCALE

(IN FEET)
1 inch = 200 ft.

SOILS MAP LEGEND:

- SOIL TEST PIT
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SLOPE DESIGNATIONS

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NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

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ALBERT FRICK 65

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET T-6 (37of 40)

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

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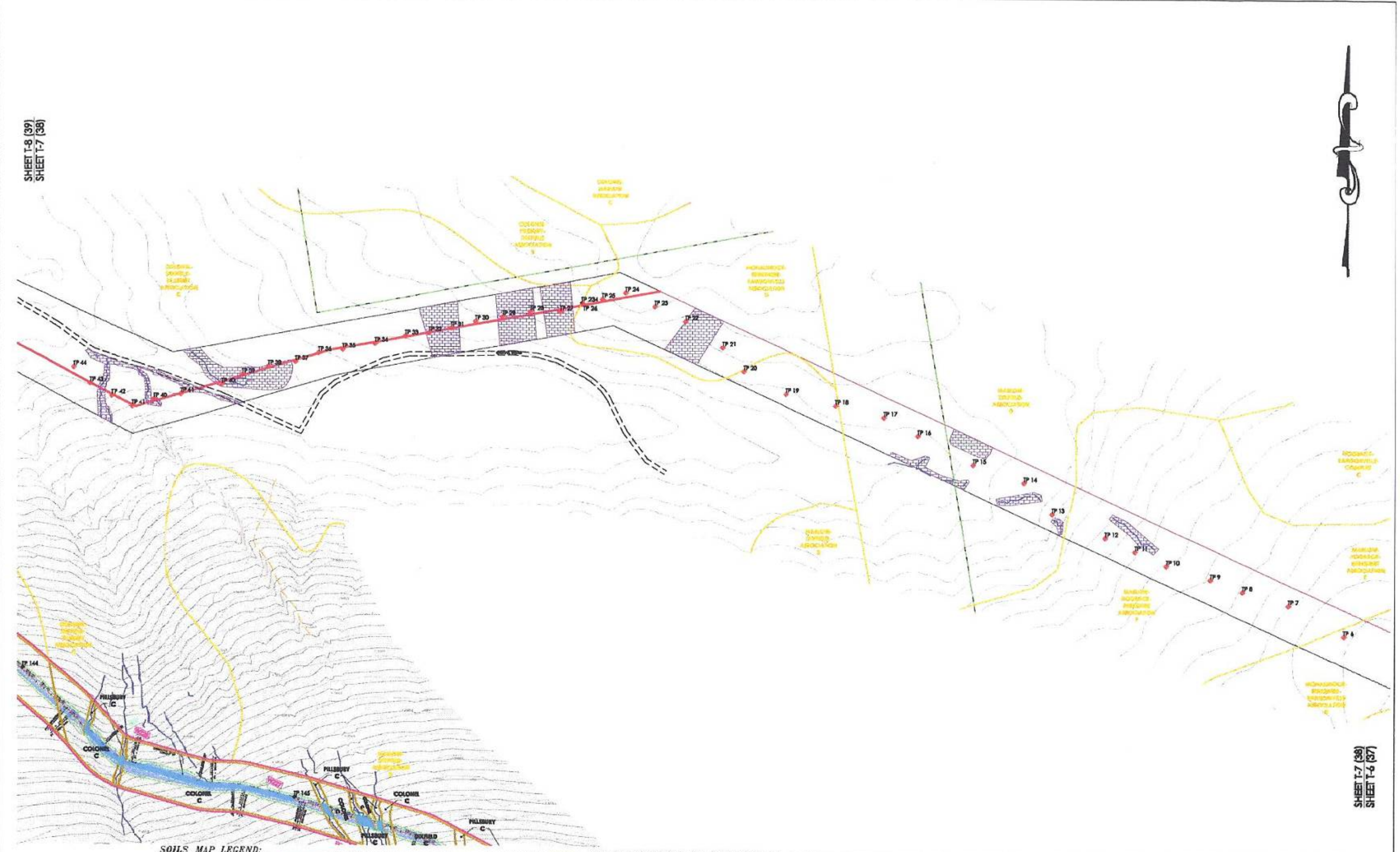
Scale: 1" = 200'



GRAPHIC SCALE

(IN FEET)
1 inch = 200 ft.

SOILS MAP LEGEND:

	SOIL TEST PIT
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SLOPE DESIGNATIONS

A	0-3%
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E	[illegible]

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

STATE OF MAINE
ALBERT FRICK
66
CERTIFIED
SOIL SCIENTIST

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET T-7 (38 of 40)

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

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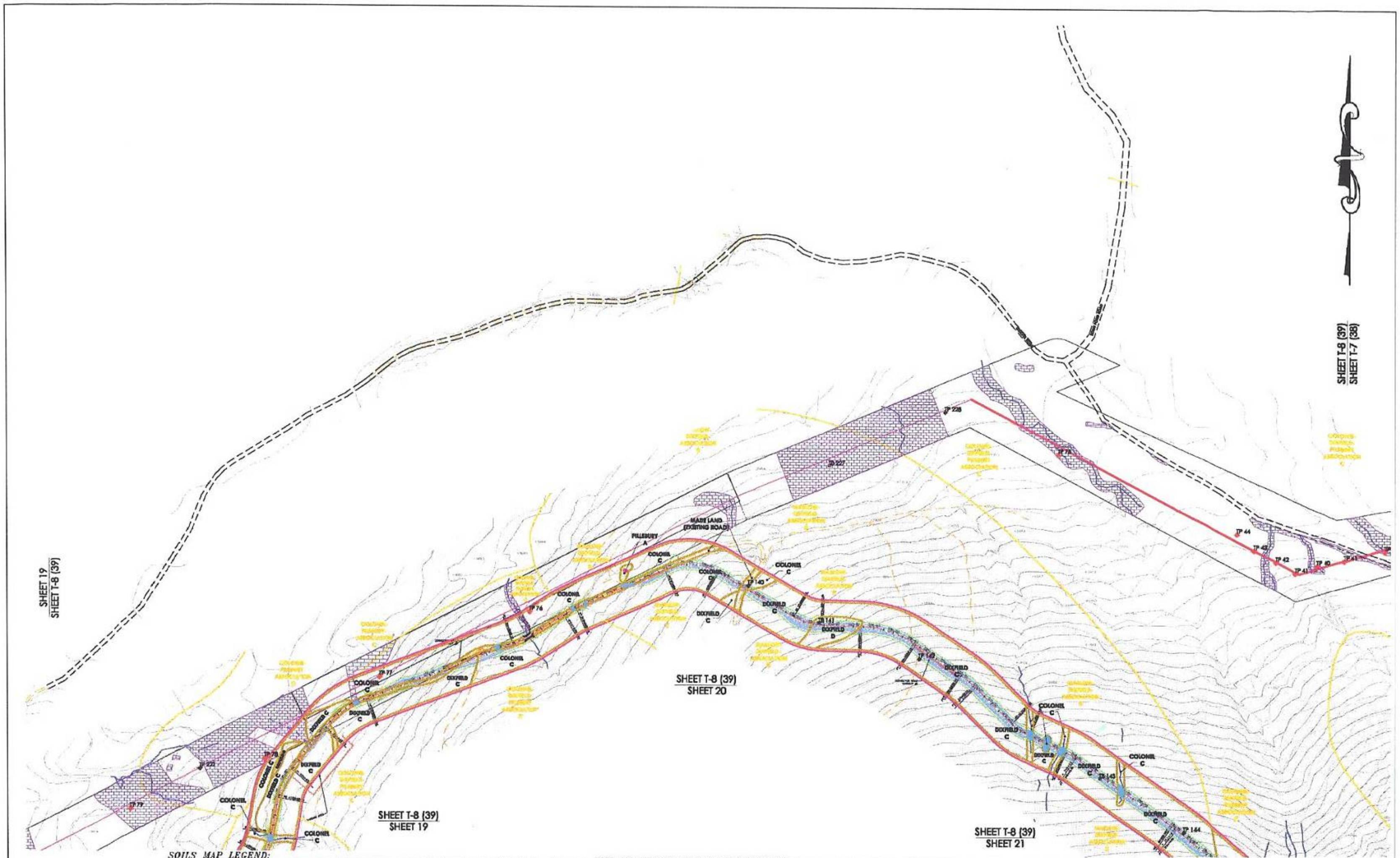

SOILS MAP LEGEND:

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- WETLAND AREA (DELINEATED BY STANTEC)
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- TRAIL (EXISTING)
- CULVERT (EXISTING)
- LIMITS OF SOIL STUDY CORRIDOR AREA FOR ROAD ALIGNMENT
- NRCS SOIL BOUNDARY LINE
- NRCS SOIL NAME
- CLASS L SOIL BOUNDARY LINE
- DIXFIELD CLASS L SOIL NAME
- AREA RECOMMENDED FOR CROSS-DRAINAGE (OXYAQUIC CONDITION, VERY POORLY TO SOMEWHAT POORLY AND/OR NATURAL SWALES, SUBJECT TO SURFACE AND/OR PERCHED GROUNDWATER FLOW DURING SPRING MELT AND TIMES OF HEAVY PRECIPITATION
- SOIL AREA IN TRANSMISSION LINE CORRIDOR WHICH EXHIBIT EITHER SOMEWHAT POORLY TO POORLY DRAINED CONDITIONS, OXYAQUIC CONDITIONS, OR WATER COURSES WHERE SPECIAL CONSIDERATION FOR SOIL DISTURBANCE SHOULD BE EXERCISED IF PROPOSED CONSTRUCTION IS DONE DURING UNFROZEN GROUND CONDITIONS, OR DURING WET SOIL CONDITIONS (SEE STANTEC TOOL BOX OF RECOMMENDED TECHNIQUES)

GRAPHIC SCALE

(IN FEET)
1 inch = 200 ft.

SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "B" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

ALBERT FRICK 66

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET T-8 (39 of 40)

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.	Checked By: A.F.
Date: 10/14/09	Scale: 1" = 200'

GRAPHIC SCALE

200 0 100 200 400

(IN FEET)
1 inch = 200 ft.

SOILS MAP LEGEND:

TP SOIL TEST PIT
TB SOIL TEST BORING
WETLAND AREA (DELINEATED BY STANTEC)
TP SOIL TEST PIT (BY STANTEC)
BEDROCK OUTCROP (LOCATED BY G.P.S.)
△ MET TOWER
WOODS ROAD (EXISTING)
BRIDGE (EXISTING)
STREAM
TRAIL (EXISTING)
CULVERT (EXISTING)

LIMITS OF SOIL STUDY CORRIDOR AREA FOR ROAD ALIGNMENT
NRCS SOIL BOUNDARY LINE
NRCS SOIL NAME
CLASS L SOIL BOUNDARY LINE
DIXFIELD CLASS L SOIL NAME
AREA RECOMMENDED FOR CROSS-DRAINAGE
(OXYAQUIC CONDITION, VERY POORLY TO SOMEWHAT POORLY AND/OR NATURAL SWALES, SUBJECT TO SURFACE AND/OR PERCHED GROUNDWATER FLOW DURING SPRING MELT AND TIMES OF HEAVY PRECIPITATION

▦ SOIL AREA IN TRANSMISSION LINE CORRIDOR WHICH EXHIBIT EITHER SOMEWHAT POORLY TO POORLY DRAINED CONDITIONS, OXYAQUIC CONDITIONS, OR WATER COURSES WHERE SPECIAL CONSIDERATION FOR SOIL DISTURBANCE SHOULD BE EXERCISED IF PROPOSED CONSTRUCTION IS DONE DURING UNFROZEN GROUND CONDITIONS, OR DURING WET SOIL CONDITIONS (SEE STANTEC TOOL BOX OF RECOMMENDED TECHNIQUES)

SLOPE DESIGNATIONS

A	0 - 3%
B	3 - 8%
C	8 - 20%
D	20%+
E	[illegible]

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT, DATED NOVEMBER, 2009

THE ACCOMPANYING SOILS SURVEYS (CLASS "L" IN THE AREA OF THE PROPOSED TURBINE SITES AND PROPOSED ACCESS ROADS. CLASS "D" IN THE AREA OF THE PROPOSED O&M BUILDING SITE, AND CLASS "D" MODIFIED FOR THE PROPOSED TRANSMISSION LINE.) SOIL PROFILE DESCRIPTIONS AND SOIL NARRATIVE REPORT WERE DONE IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, FEBRUARY 1995, AS AMENDED AND PREPARED BY ALBERT FRICK ASSOCIATES, SOIL SCIENTIST, SEALING THE PLANS AND REPORT.

ALBERT FRICK 66

Albert Frick

DATE:	REVISIONS:

SOILS MAP
HIGHLAND WIND, LLC
HIGHLAND WIND PROJECT

HIGHLAND PLANTATION &
PLEASANT HILL PLANTATION, ME
SHEET T-9 (40 of 40)

Albert Frick Associates, Inc.
Soil Scientists & Site Evaluators
Gorham, Maine 04038

Drawn By: B.J.
Checked By: A.F.
Date: 10/14/09
Scale: 1" = 200'

APPENDIX C

Soil Map Unit Descriptions

ABRAM-RICKER-ROCK OUTCROP COMPLEX

SETTING

Parent Material: Thin organic deposits underlain by a thin mineral horizon over bedrock

Landform: On mountains and hills

Position in Landscape: Uppermost portions of landscape

Slope Gradient Ranges: **(C)** 8-20% **(D)** 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Well drained to excessively well drained

Typical Profile Description: (Abram)

Surface layer: Pinkish gray sandy loam, 0-2"
Subsurface layer: Very dusky red to brown sandy loam, 2-5"
Bedrock @ 5"

(Ricker)

Surface layer: Dark reddish brown to black peat, 7-0"
Subsurface layer: Dark bluish gray, very channery silt loam, 0-9"
Substratum: Bedrock – micaceous schist

Note: These two soils occur in a non-regular, non-repeating pattern with areas of exposed bedrock (Rock Outcrop) and could not be separated out in mapping.

Hydrologic Group: A (Ricker)
D (Abram/Rock Outcrop)

Surface Runoff: Rapid

Permeability: Moderately rapid in organic layers, moderate or moderately rapid on the mineral horizon

Depth to Bedrock: Very shallow to moderately deep, 0-40"

Hazard to Flooding: None

Erosion Factors: K: .17 - .49

INCLUSIONS
(Within Mapping Unit)

Similar: Saddleback, Ricker, Hogback, Rawsonville
Contrasting: Rock Outcrop, Naskeag, Mahoosuc

USE AND MANAGEMENT

Development of Wind Power Projects: Soils within this map unit are generally suited to the proposed use, in that they generally have no limitations due to wetness, and shallow depths to bedrock can provide stable and solid anchoring points for wind tower bases.

CHARLES (Limerick)
(Aeric Fluvaquents)

SETTING

Parent Material: Recently deposited alluvium, sometimes stratified.

Landform: Floodplains adjacent to rivers and streams.

Position in Landscape: Commonly found in broad depressions on floodplains.

Slope Gradient Ranges: (A) 0-3% (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Poorly drained, with an apparent water table from 0 to 1.5 feet beneath the soil surface from November through June.

Typical Profile Description:
Surface layer: Dark grayish brown silt loam, 0-13"
Subsurface layer: Olive gray silt loam, 13-35"
Subsoil layer: Gray silt loam, 35-40"
Substratum: Dark gray silt loam, 40-65"

Hydrologic Group: Group C

Surface runoff: Overflow generally occurs during spring runoff

Permeability: Moderate to very rapid.

Depth to Bedrock: Very deep, greater than 60".

Hazard to Flooding: Common for brief periods from March through October.

Erosion Factor: K: .32 - .49

INCLUSIONS
(Within Mapping Unit)

Similar: Cornish, Pillsbury, Brayton

Contrasting: Limerick (Variant) - very poorly drained, Medomak (Saco), Waskish

USE AND MANAGEMENT

Development of Wind Power Projects: The limiting factor of this soil for development of wind power projects is wetness, since this floodplain soil is frequently flooded and seasonal high groundwater tables are within 18" of the soil surface for considerable periods of the year. Charles soil may be consistent with floodplains as identified on the Federal Emergency Management Agency's FIRM maps, and otherwise may be jurisdictional wetland area in areas where all three parameters of wet hydrology, hydric soils, and hydrophytic vegetation are present.

COLONEL
(Aquic Haplorthods)

SETTING

Parent Material: Compact loamy glacial till.

Landform: Glaciated uplands.

Position in Landscape: Intermediate positions on landform.

Slope Gradient Ranges: (A) 0-3% (B) 3-8% (C) 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat poorly drained, with a perched water table 1.0 to 1.5 feet beneath the soil surface from November through May or during periods of excessive precipitation.

Typical Profile Description:
Surface layer: Grayish brown fine sandy loam, 0-2"
Subsurface layer: Dark reddish brown fine sandy loam, 2-12"
Subsoil layer: Light olive brown gravelly fine sandy loam, 12-18"
Substratum: Olive gravelly fine sandy loam, 18-65"

Hydrologic Group: Group C

Surface Run Off: Moderate

Permeability: Moderate in solum and moderately slow or slow in the compact substratum.

Depth to Bedrock: Deep, greater than 40 inches.

Hazard to Flooding: None

Erosion Factor: K: .17 - .24

INCLUSIONS
(Within Mapping Unit)

Similar: Dixfield, Skerry

Contrasting: Pillsbury, Hogback, Rawsonville, Naskeag

USE AND MANAGEMENT

Development of Wind Power Projects: The limiting factor of this soil for development of wind power projects is wetness, since Colonel soils exhibit a perched water table within 15” of the ground surface throughout much of the year. Proposed activities near the bottom of long sideslopes may be subject to considerable runoff. Maintaining cross drainage beneath proposed roads will help to assure stable road bases, and to avoid concentration of stormwater flows.

CORNISH
(Fluvaquentic Dystrochrepts)

SETTING

Parent Material: Alluvial sediments.

Landform: Floodplains.

Position in Landscape: Nearly level areas, commonly in broad depressions.

Slope Gradient Ranges: (A) 0-3% (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat poorly drained, with an apparent water table 1.0 to 2.0 feet beneath the soil surface from November through May and during periods of excessive precipitation or spring run-off.

Typical Profile Description:
- **Surface layer:** Very dark grayish-brown, very fine sandy loam, 0-12"
- **Subsurface layer:** Light olive-brown, very fine sandy loam, 12-24"
- **Subsoil layer:** Olive, very fine sandy loam, 24-35"
- **Substratum:** Olive-gray, very fine sandy loam, 35-60"

Hydrologic Group: Group C

Surface Run Off: Slow

Permeability: Moderate in coarse silty layers, and moderate to very rapid in the silt loam to fine gravel strata, where present.

Depth to Bedrock: Very deep, greater than 60".

Hazard to Flooding: Twice annually to once every ten years.

Erosion Factor: K: .32 - .49

INCLUSIONS
(Within Mapping Unit)

Similar: Lovewell (moderately well drained floodplain soils)

Contrasting: Charles, Medomak

USE AND MANAGEMENT

Development of Wind Power Projects: The limiting factor of this soil for development of wind power projects is depths to seasonal high groundwater table, which are 1-2' beneath the ground surface, and frequency of flooding, which may occur 1-2 times every 10 years. Water table limitations may be overcome by the addition of coarse granular fill and associated stabilization. Other methods to maintain unimpeded cross drainage beneath proposed road beds may also be indicated.

DIXFIELD
(Typic Haplorthods)

SETTING

Parent Material:	Compact loamy glacial till.
Landform:	Glaciated uplands and drumlins.
Position in Landscape:	Upper portions of landform.
Slope Gradient Ranges:	**(B)** 3-8% **(C)** 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Moderately well drained, with a perched water table 1.5 to 2.5 feet beneath the existing soil surface from November through April and during periods of excessive precipitation.	
Typical Profile Description:	**Surface layer:**	Grayish brown and dark brown fine sandy loam, 0-6"
	Subsurface layer:	Strong brown and dark yellowish brown fine sandy loam, 6-19"
	Subsoil layer:	Light olive brown gravelly fine sandy loam, 19-24"
	Substratum:	Light olive brown gravelly sandy loam, 24-65"
Hydrologic Group:	Group C	
Surface Runoff:	Moderate in the solum, moderately slow or slow in the compact substratum.	
Permeability:	Moderate in the solum, moderately slow or slow in the compact substratum.	
Depth to Bedrock:	Very deep, greater than 60".	
Hazard to Flooding:	None	
Erosion Factors:	K: .17 - .24	

INCLUSIONS
(Within Mapping Unit)

Similar:	Hermon, Skerry, Becket, Marlow
Contrasting:	Hogback (10-20" to bedrock), Rawsonville (20-40" to bedrock)

USE AND MANAGEMENT

Development with Wind Power Projects: Dixfield soils are generally suited for development of wind power projects, in that these soils are moderately well drained with dense basal till substratum. Depths to seasonal high groundwater table can be overcome by redirection of surface water runoff, and/or importation of coarse granular fill.

HERMON-SKERRY COMPLEX
(Typic Haplorthods)

SETTING

Parent Material: Hermon - sandy ablation glacial till without a restrictive subsurface.

Landform: Glaciated upland plains, hills and ridges.

Position in Landscape: Both soils occupy uppermost portions of landforms.

Slope Gradient Ranges: (C) 8-20% (D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Hermon soils are somewhat excessively drained, while Skerry soils are moderately well drained

Drainage Class: Somewhat excessively drained, with a water table greater than 6.0 feet beneath the existing soil surface.

Typical Profile Description: (Hermon)	**Surface layer:**	Pinkish gray sandy loam, 0-3"
	Subsurface layer:	Dark reddish brown, 3-9"
	Subsoil layer:	Strong brown & dark yellowish brown, 9-32"
	Substratum:	Light olive brown gravelly coarse sand, 32-65"
(Skerry)	**Surface layer:**	Light gray fine sandy loam, 0-4"
	Subsurface layer:	Dark reddish brown fine sandy loam, 4-20"
	Subsoil layer:	Yellowish brown fine sandy loam, 20-25"
	Substratum:	Mixed brown and light olive brown fine sandy loam and sand, 25-65"

Hydrologic Group: Hermon: Group A
Skerry: Group C

Surface Run Off: Slow to medium

Permeability: Rapid in the solum, rapid or very rapid in the coarser substratum.

Depth to Bedrock: Very deep, greater than 60".

Hazard to Flooding: None

Erosion Factors: K: .10 - .24

INCLUSIONS
(Within Mapping Unit)

Similar: Dixfield, Marlow, Waumbek, Becket, Monadnock

Contrasting: Hogback (10-20” to bedrock), Rawsonville (20-40” to bedrock), Colonel

USE AND MANAGEMENT

Development of Wind Power Projects: Herman and Skerry soils are generally suited for the development of wind power projects, since water table limitations are not a factor in Hermon or uppermost portions of Skerry soil area.

HOGBACK-ABRAM COMPLEX

SETTING

Parent Material: Coarse loamy soils derived from mica schist and phyllite with some granite and gneiss.

Landform: Ridgetop portions of glaciated uplands.

Position in Landscape: Uppermost sideslopes and ridgetops.

Slope Gradient Ranges: (C) 8 – 20% (D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Well drained (Hogback) to excessively drained (Abram) with a seasonal high groundwater table observed only for short durations after significant storm events or snowmelt.

Typical Profile Description: (for Hogback)
Surface layer: Dark reddish brown fine sandy loam, 0-7"
Subsurface layer: Dark reddish brown fine sandy loam, 7-15"
Schist bedrock @ 15"

(for Abram)
Surface layer: Pinkish gray sandy loam, 0-2"
Subsurface layer: Very dusky red to brown sandy loam, 2-5"
Bedrock @ 5"

Note: These two soils occur in a non-regular, non-repeating pattern that could not be separated out in mapping. It is estimated that Hogback forms the majority of this map unit, while Abram occupies the balance of the area.

Hydrologic Group:
Hogback: Group B
Abram: Group D

Surface Run Off: Rapid

Permeability: Moderately rapid

Depth to Bedrock:
Hogback: 10-20" to bedrock
Abram: 0-10" to bedrock

Hazard to Flooding: None

Erosion Factor: K: .17 - .64

INCLUSIONS

(Within Mapping Unit)

Similar: Rawsonville, Saddleback, Ricker, Dixfield, Skerry
Contrasting: Mahoosuc, Rock Outcrop

USE AND MANAGEMENT

For Development of Wind Power Projects: Hogback and Abram soils are generally suited for development of wind power projects, in that wetness is generally not a factor in these map units, and both provide for solid and stable anchoring points for wind tower bases.

HOGBACK-ABRAM-RAWSONVILLE COMPLEX

SETTING

Parent Material: Loamy glacial till formed from mica schist and phyllite with some granite and gneiss.

Landform: Glaciated upland ridges.

Position in Landscape: Uppermost till ridges and upper sideslopes.

Slope Gradient Ranges: (C) 8 – 20% (D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Well drained, generally with no observed water table, or a short duration water table observed after significant storm events or snowmelt.

Typical Description: (Hogback)

Surface layer: Dark reddish brown fine sandy loam, 0-7"
Subsurface layer: Dark reddish brown fine sandy loam, 7-15"
Schist bedrock @ 15"

(for Abram)

Surface layer: Pinkish gray sandy loam, 0-2"
Subsurface layer: Very dusky red to brown sandy loam, 2-5"
Bedrock @ 5"

(Rawsonville)

Surface layer: Dark reddish brown fine sandy loam, 0-10"
Subsurface layer: Dark reddish brown fine sandy loam, 10-19"
Subsoil layer: Dark brown fine sandy loam, 19-28"
Schist bedrock @ 28"

Note: These three soils occur within this complex in a non-regular, non-repeating pattern that could not be separated out in mapping.

Hydrologic Group: Group C

Surface Run Off: Rapid

Permeability: Moderate of moderately rapid

Depth to Bedrock: Moderately deep, 20-40" to bedrock

Hazard to Flooding: None

Erosion Factor: K: .17 - .64

INCLUSIONS

(Within Mapping Unit)

Similar: Saddleback, Ricker, Marlow
Contrasting: Naskeag, Brayton, Pillsbury, Rock Outcrop, Mahoosuc, Dixfield

USE AND MANAGEMENT

For Development of Wind Power Projects: Hogback-Abram-Rawsonville soils are generally suited for construction of wind power projects, since drainage is not a significant limitation within these map units, and Rawsonville can provide solid and stable anchoring points for wind towers.

HOGBACK-ABRAM-ROCK OUTCROP COMPLEX

SETTING

Parent Material:	Coarse loamy soils derived from mica schist and phyllite with some granite and gneiss.
Landform:	Ridgetop portions of glaciated uplands.
Position in Landscape:	Uppermost sideslopes and ridgetops.
Slope Gradient Ranges:	(C) 8 – 20% (D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Well drained (Hogback) to excessively drained (Abram) with a seasonal high groundwater table observed only for short durations after significant storm events or snowmelt.

Typical Profile Description: (for Hogback)	**Surface layer:**	Dark reddish brown fine sandy loam, 0-7"
	Subsurface layer:	Dark reddish brown fine sandy loam, 7-15"
	Schist bedrock @ 15"	
(for Abram)	**Surface layer:**	Pinkish gray sandy loam, 0-2"
	Subsurface layer:	Very dusky red to brown sandy loam, 2-5"
	Bedrock @ 5"	
	Note:	These two soils occur in a non-regular, non-repeating pattern, along with areas of exposed bedrock. Hogback is the dominant soil type in the complex, followed by Abram and Rock Outcrop, respectively.

Hydrologic Group:	Hogback: Group B Abram: Group D
Surface Run Off:	Rapid
Permeability:	Moderately rapid
Depth to Bedrock:	Hogback: 10-20" to bedrock Abram: 0-10" to bedrock
Hazard to Flooding:	None
Erosion Factor:	K: .17 - .64

INCLUSIONS

(Within Mapping Unit)

Similar:	Rawsonville, Saddleback, Ricker
Contrasting:	Naskeag, Dixfield

USE AND MANAGEMENT

For Development of Wind Power Projects: Hogback and Abram soils are generally suited for development of wind power projects, in that wetness is generally not a factor in these map units, and both provide for solid and stable anchoring points for wind tower bases.

HOGBACK-RAWSONVILLE COMPLEX

SETTING

Parent Material: Loamy glacial till formed from mica schist and phyllite with some granite and gneiss.

Landform: Glaciated upland ridges.

Position in Landscape: Uppermost till ridges and upper sideslopes.

Slope Gradient Ranges: (C) 8 – 20% (D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Well drained, generally with no observed water table, or a short duration water table observed after significant storm events or snowmelt.

Typical Profile Description: (Hogback)

Surface layer: Dark reddish brown fine sandy loam, 0-7"
Subsurface layer: Dark reddish brown fine sandy loam, 7-15"
Schist bedrock @ 15"

Rawsonville

Surface layer: Dark reddish brown fine sandy loam, 0-10"
Subsurface layer: Dark reddish brown fine sandy loam, 10-19"
Subsoil layer: Dark brown fine sandy loam, 19-28"
Schist bedrock @ 28"

Note: These soils occur in a non-regular, non-repeating pattern that could not be separated out in mapping.

Hydrologic Group: Group C

Surface Run Off: Rapid

Permeability: Moderate of moderately rapid

Depth to Bedrock: Moderately deep, 20-40" to bedrock

Hazard to Flooding: None

Erosion Factor: K: .28 - .64

INCLUSIONS
(Within Mapping Unit)

Similar: Saddleback, Ricker, Abram
Contrasting: Rock Outcrop, Naskeag

USE AND MANAGEMENT

Development of Wind Power Projects: Hogback-Rawsonville soils are generally suited for construction of wind power projects, since drainage is not a significant limitation within these map units, and can provide solid and stable anchoring points for wind towers.

HOGBACK-RAWSONVILLE-ABRAM COMPLEX

SETTING

Parent Material: Loamy glacial till formed from mica schist and phyllite with some granite and gneiss.

Landform: Glaciated upland ridges.

Position in Landscape: Uppermost till ridges and upper sideslopes.

Slope Gradient Ranges: (C) 8 – 20% (D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Well drained, generally with no observed water table, or a short duration water table observed after significant storm events or snowmelt.

Typical Profile Description: (Hogback)

Surface layer: Dark reddish brown fine sandy loam, 0-7"
Subsurface layer: Dark reddish brown fine sandy loam, 7-15"
Schist bedrock @ 15"

(Rawsonville)

Surface layer: Dark reddish brown fine sandy loam, 0-10"
Subsurface layer: Dark reddish brown fine sandy loam, 10-19"
Subsoil layer: Dark brown fine sandy loam, 19-28"
Schist bedrock @ 28"

(for Abram)

Surface layer: Pinkish gray sandy loam, 0-2"
Subsurface layer: Very dusky red to brown sandy loam, 2-5"
Bedrock @ 5"

Note: These three soils occur within this complex in a non-regular, non-repeating pattern that could not be separated out in mapping.

Hydrologic Group: Group C

Surface Run Off: Rapid

Permeability: Moderate of moderately rapid

Depth to Bedrock: Moderately deep, 20-40" to bedrock

Hazard to Flooding: None

Erosion Factor: K: .28 - .64

INCLUSIONS

(Within Mapping Unit)

Similar: Abram, Saddleback, Ricker
Contrasting: Naskeag, Rock Outcrop

USE AND MANAGEMENT

For Development of Wind Power Projects: The soils within this soil mapping unit are generally suited for construction of wind power projects, since drainage is not a significant limitation within these map units, and Rawsonville can provide solid and stable anchoring points for wind towers.

MADE LAND (EXISTING GRAVEL ROAD)

SETTING

Parent Material:	Variable, deposited by man
Landform:	Variable, generally less than 15% maximum grade
Position in Landscape:	Variable, generally in lower elevations and along mountain side slopes
Slope Gradient Ranges:	**(A)** 0-3% **(B)** 3-8% **(C)** 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: None assigned

Typical Profile Description:

Surface layer:) Typically this map unit
Subsurface layer:) consists of areas
Subsoil layer:) excavated and reworked
Substratum:) by man, then smoothed.

Note: These map units generally consist of existing gravel roads and associated disturbed area. Ditch turn-outs, fill piles and stump tailings are often present along map unit boundaries.

Hydrologic Group:	None assigned
Surface Run Off:	Variable
Permeability:	Variable
Depth to Bedrock:	Variable
Hazard to Flooding:	None

INCLUSIONS
(Within Mapping Unit)

Similar:	Filled Land
Contrasting:	Small 'made' depressions that contain standing water or have other drainage implications. These may be caused by compaction by vehicular traffic, which is not synonymous with seasonal water tables.

USE AND MANAGEMENT

This map unit consists of areas reworked by man, so that the soils are no longer taxonomically classifiable. Limiting factor for development is depth to seasonal high water table, which is somewhat difficult to determine in this map unit. Proper sub grade drainage or other site alterations recommended for construction.

MAHOOSUC
(Typic Borofolists)

SETTING

Parent Material: Deep and very deep soils formed in thin organic materials overlying fragmental colluviums.

Landform: Ridge and mountain tops.

Position in Landscape: Steep slopes on uppermost portions of glaciate uplands.

Slope Gradient Ranges: **(C)** 8 – 20% **(D)** 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat excessively drained, generally with no observable seasonal high groundwater table.

Typical Profile

Surface layer: Dusty red to black fabric and hemi materials, 0-8”
Substratum: Fragmental cobbles, stones, gravel and boulders, 8-20’.
Subsoil: Fragmental soils consisting of cobbles, stones, and boulders, 20-60”.

Hydrologic Group: Group A

Permeability: Very rapid

Depth to Bedrock: Very deep, greater than 60 inches

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Rawsonville, Monadnock

Contrasting: Abram, Hogback, Saddleback, Dixfield, Skerry

USE AND MANAGEMENT

Development of Wind Power Projects: The limiting factor of this soil for development of wind power projects is the fragmental nature of this soil, where the abundance of boulders and other large colluviums can be an impediment to excavation and/or vehicular traffic. Large boulders in this soil mapping unit have the potential to be processed into rip rap stone for a source of road construction base material.

NASKEAG
(Aeric Haplaquods)

SETTING

Parent Material: Loamy and sandy glacial till.

Landform: Depressions of glaciated bedrock ridges.

Position in Landscape: Lowest positions in depressions or concavities in landform.

Slope Gradient Ranges: **(A)** 0-3% **(B)** 3-8% **(C)** 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat poorly to poorly drained, with a perched water table 0-1.5 feet beneath the soil surface.

Typical Profile Description:

Surface layer:	Very dusky red muck, 0-5"
Subsurface layer:	Light brownish gray and brown sandy loam or loamy sand, 5-16"
Subsoil layer:	Dusky red loamy sand, 10-26"
Substratum:	Light yellowish brown gravelly loamy sand, 26-38"

Hydrologic Group: Group C

Surface Run Off: Moderate or moderately rapid (across bedrock surface)

Permeability: Rapid

Depth to Bedrock: Moderately deep, 20-40" to bedrock surface.

Hazard to Flooding: None, but may be ponded for short duration in spring and during periods of excessive rainfall.

Erosion Factors: K: .10

INCLUSIONS
(Within Mapping Unit)

Similar: Colonel, Pillsbury

Contrasting: Rock Outcrop, Naskeag (Variant-V.P.D.), Waskish, Hogback, Rawsonville

USE AND MANAGEMENT

Development of Wind Power Projects: The limiting factors of this soil for development of wind power projects is wetness, due to a seasonal high groundwater table near the soil surface for a significant portion of the year, and bedrock which varies generally from 20-40". Naskeag (poorly drained) may also have further limitation as a wetland area, if combined parameter of wet hydrology, hydric soils, and hydrophytic vegetation are all present.

NASKEAG-WASKISH COMPLEX

SETTING

Parent Material:	Loamy and sandy glacial till.
Landform:	Depressions of glaciated bedrock ridges.
Position in Landscape:	Lowest positions in depressions or concavities in landform.
Slope Gradient Ranges:	(A) 0-3% (B) 3-8% (C) 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Naskeag soil is somewhat poorly to poorly drained, with a perched water table 0-1.5 feet beneath the soil surface. Waskish soil is very poorly drained, with seasonal water table within 0.5' of the soil surface for most of the year.

Typical Description: (Naskeag)	**Surface layer:**	Very dusky red muck, 0-5"
	Subsurface layer:	Light brownish gray and brown sandy loam or loamy sand, 5-16"
	Subsoil layer:	Dusky red loamy sand, 10-26"
	Substratum:	Light yellowish brown gravelly loamy sand, 26-38"
(Waskish)	**Surface layer:**	Very pale brown to brown fibric material, 0-14"
	Subsurface layer:	Dark brown sapric material, 14-16"
	Subsoil layer:	Reddish brown fibric material, 16-84"

Note: These oils occur in non-regular, non-repeating pattern that could be separated out in mapping.

Hydrologic Group: for Naskeag: Group C
for Waskish: Group D

Surface Run Off: Moderate or moderately rapid (across bedrock surface)

Permeability: Rapid

Depth to Bedrock: Naskeag: Moderately deep, 20-40" to bedrock surface
Waskish: Deep, greater than 40"

Hazard to Flooding: None, but may be ponded for short duration in spring and during periods of excessive rainfall.

Erosion Factors: K: .10 (for Naskeag)

INCLUSIONS
(Within Mapping Unit)

Similar:	Colonel, Pillsbury
Contrasting:	Rock Outcrop, Naskeag (Variant-V.P.D.)

USE AND MANAGEMENT

Development of Wind Power Projects: The limiting factor of soils within this soil map unit for development of wind power projects is wetness, due to the presence of a seasonal high groundwater table very near the soil surface throughout much of the year. Waskish soils are generally considered to be wetland soils, while the poorly drained component of Naskeag may also be classified as wetland area. Appropriate engineering methods such as importation of coarse granular fill, or the use of 'rock sandwich' type road base construction can help overcome limitations due to drainage.

PILLSBURY
(Aeric Haplaquepts)

SETTING

Parent Material:	Loamy glacial till formed from mica schist and phyllite, with some granite and gneiss.
Landform:	Concave slopes with glaciated uplands.
Position in Landscape:	Depressional areas and shallow drainageways.
Slope Gradient Ranges:	**(A)** 0 – 3% **(B)** 3 - 8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Poorly to somewhat poorly drained, with a perched water table at or near the surface from 7-9 months a year.	
Typical Profile Description:	**Surface layer:**	Black loam, 0-5"
	Subsurface layer:	Dark grayish brown fine sandy loam , 5-12"
	Subsoil layer:	Dark grayish brown fine sandy loam, 12-22"
	Substratum:	Olive brown fine sandy loam, 22-65"
Hydrologic Group:	Group C	
Surface Run Off:	Slow to medium	
Permeability:	Moderate in solum, slow in substratum	
Depth to Bedrock:	Very deep, greater than 60”.	
Hazard to Flooding:	None	
Erosion Factors:	K: .24 - .32	

INCLUSIONS
(Within Mapping Unit)

Similar:	Brayton, Colonel
Contrasting:	Naskeag, Waskish

USE AND MANAGEMENT

Development of Wind Power Projects: The limiting factor of this soil for development of wind power projects is wetness, due to the presence of seasonal high groundwater table at or near the mineral soil surface for a considerable period of the year. Redirecting runoff and subsurface drainage away from project areas, or importation of loose granular fill, can help overcome limitations for construction due to drainage. Pillsbury soils may also have further limitations and permitting implications, since these areas may also include wetlands on the combined basis of hydric soils, hydrology and hydrophytic vegetation.

RAWSONVILLE
(Typic Haplorthods)

SETTING

Parent Material:	Loamy glacial till formed from mica schist and phyllite with some granite and gneiss.
Landform:	Glaciated upland ridges.
Position in Landscape:	Uppermost till ridges and upper sideslopes.
Slope Gradient Ranges:	**(B)** 3 – 8% **(C)** 8 – 20% **(D)** 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Well drained, generally with no observed water table, or a short duration water table observed after significant storm events or snowmelt.

Typical Profile Description:	**Surface layer:**	Dark reddish brown fine sandy loam, 0-10"
	Subsurface layer:	Dark reddish brown fine sandy loam, 10-19"
	Subsoil layer:	Dark brown fine sandy loam, 19-28"
	Schist bedrock @ 28"	

Hydrologic Group:	Group C
Surface Run Off:	Rapid
Permeability:	Moderate or moderately rapid
Depth to Bedrock:	Moderately deep, 20-40" to bedrock
Hazard to Flooding:	None
Erosion Factor:	K: .28 - .64

INCLUSIONS
(Within Mapping Unit)

Similar: Hogback, Abram, Dixfield, Skerry, Marlow

Contrasting: Naskeag, Rock Outcrop

USE AND MANAGEMENT

For Development of Wind Power Projects: Rawsonville soils are generally suited for construction of wind power projects, since drainage is not generally a significant limitation within these map units, and Rawsonville can provide solid and stable anchoring points for wind tower bases.

RAWSONVILLE-DIXFIELD COMPLEX

SETTING

Parent Material: Loamy glacial till formed from mica schist and phyllite with some granite and gneiss.

Landform: Glaciated upland ridges.

Position in Landscape: Uppermost till ridges and upper sideslopes.

Slope Gradient Ranges: (C) 8 – 20% (D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Well drained, generally with no observed water table, or a short duration water table observed after significant storm events or snowmelt.

Typical Profile Description: (Rawsonville)

Surface layer: Dark reddish brown fine sandy loam, 0-10"
Subsurface layer: Dark reddish brown fine sandy loam, 10-19"
Subsoil layer: Dark brown fine sandy loam, 19-28”
Schist bedrock @ 28”

(Dixfield)

Surface layer: Grayish brown and dark brown fine sandy loam, 0-6"
Subsurface layer: Strong brown and dark yellowish brown fine sandy loam, 6-19"
Subsoil layer: Light olive brown gravelly fine sandy loam, 19-24"
Substratum: Light olive brown gravelly sandy loam, 24-65"

Note: These soils occur in a non-regular, non-repeating pattern that could not be separated out in mapping.

Hydrologic Group: Group C

Surface Run Off: Moderate

Permeability: Moderate of moderately rapid

Depth to Bedrock: Moderately deep, 20-40” to bedrock

Hazard to Flooding: None

Erosion Factor: K: .17 - .64

INCLUSIONS

(Within Mapping Unit)

Similar: Hogback, Skerry
Contrasting: Naskeag, Colonel, Mahoosuc

USE AND MANAGEMENT

For Development of Wind Power Projects: Rawsonville and Dixfield soils are generally suited for construction of wind power projects, since drainage is not a significant limitation within these map units, and Rawsonville can provide solid and stable anchoring points for wind towers.

RAWSONVILLE-HOGBACK COMPLEX

SETTING

Parent Material: Loamy glacial till formed from mica schist and phyllite with some granite and gneiss.

Landform: Glaciated upland ridges.

Position in Landscape: Uppermost till ridges and upper sideslopes.

Slope Gradient Ranges: (C) 8 – 20% (D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Well drained, generally with no observed water table, or a short duration water table observed after significant storm events or snowmelt.

Typical Profile Description: (Rawsonville)
Surface layer: Dark reddish brown fine sandy loam, 0-10"
Subsurface layer: Dark reddish brown fine sandy loam, 10-19"
Subsoil layer: Dark brown fine sandy loam, 19-28"
Schist bedrock @ 28"

(Hogback)
Surface layer: Dark reddish brown fine sandy loam, 0-7"
Subsurface layer: Dark reddish brown fine sandy loam, 7-15"
Schist bedrock @ 15"

Note: These soils occur in a non-regular, non-repeating pattern that could not be separated out in mapping. Rawsonville makes up the majority of the map unit area.

Hydrologic Group: Group C

Surface Run Off: Rapid

Permeability: Moderate of moderately rapid

Depth to Bedrock: Moderately deep, 20-40" to bedrock

Hazard to Flooding: None

Erosion Factor: K: .17 - .64

INCLUSIONS
(Within Mapping Unit)

Similar: Saddleback, Dixfield, Skerry, Hermon

Contrasting: Rock Outcrop, Naskeag

USE AND MANAGEMENT

For Development of Wind Power Projects: Hogback-Rawsonville soils are generally suited for construction of wind power projects, since drainage is not a significant limitation within these map units, and Hogback-Rawsonville can provide solid and stable anchoring points for wind towers.

RICKER-ABRAM-ROCK OUTCROP COMPLEX

SETTING

Parent Material:	Thin organic deposits underlain by a thin mineral horizon over bedrock
Landform:	On mountains and hills
Position in Landscape:	Uppermost portions of landscape
Slope Gradient Ranges:	**(C)** 8-20% **(D)** 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Well drained to excessively well drained	
Typical Profile Description: (Ricker)	**Surface layer:**	Dark reddish brown to black peat, 7-0”
	Subsurface layer:	Dark bluish gray, very channery silt loam, 0 9”
	Substratum:	Bedrock – micaceous schist
(Abram)	**Surface layer:**	Pinkish gray sandy loam, 0-2"
	Subsurface layer:	Very dusky red to brown sandy loam, 2-5”
	Bedrock @ 5”	
	Note: Ricker and Abram soils in this map unit are interspersed with areas of exposed Rock Outcrop in a non-regular, non-repeating pattern that could not be separated out in mapping.	
Hydrologic Group:	A (Ricker) D (Abram/Rock Outcrop)	
Surface Runoff:	Rapid	
Permeability:	Moderately rapid in organic layers, moderate or moderately rapid on the mineral horizon	
Depth to Bedrock:	Very shallow to moderately deep, 0-40”	
Hazard to Flooding:	None	
Erosion Factors:	K: .17 - .49	

INCLUSIONS
(Within Mapping Unit)

Similar:	Hogback, Rawsonville, Saddleback
Contrasting:	Naskeag

USE AND MANAGEMENT

Development of Wind Power Projects: The soils within this map unit is generally suited to the development of wind power projects, in that wetness is generally not a factor, while shallow depths to bedrock can provide for stable and solid anchoring points for wind tower bases.

RICKER-ROCK OUTCROP COMPLEX

SETTING

Parent Material: Thin organic deposits underlain by a thin mineral horizon over bedrock

Landform: On mountains and hills

Position in Landscape: Uppermost portions of landscape

Slope Gradient Ranges: **(C)** 8-20% **(D)** 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Well drained to excessively well drained

Typical Profile

Surface layer: Dark reddish brown to black peat, 7-0"
Subsurface layer: Dark bluish gray, very channery silt loam, 0-9"
Substratum: Bedrock – micaceous schist

Note: Ricker soils in this map unit are interspersed with areas of exposed Rock Outcrop in a non-regular, non-repeating pattern that could not be separated out in mapping.

Hydrologic Group: A (Ricker)
D (Rock Outcrop)

Permeability: Moderately rapid in organic layers, moderate or moderately rapid on the mineral horizon

Depth to Bedrock: Very shallow to moderately deep, 0-40"

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Saddleback, Hogback, Rawsonville

Contrasting: Naskeag, Mahoosuc

USE AND MANAGEMENT

For Development of Wind Power Projects: The soils within this map unit are generally suited for construction of wind power projects, in that they have no limitations due to drainage, and the shallow depths to bedrock provide for stable and solid anchoring points for wind tower bases.

ROCK OUTCROP

SETTING

Parent Material:	Bedrock (igneous or metamorphic)
Landform:	Commonly found on heights of land forms, along steep escarpments, and on knolls along sidespins.
Position in Landscape:	
Slope Gradient Ranges:	**(D)** 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Excessively drained
Hydrologic Group:	D
Surface Run Off:	Rapid
Permeability:	Impermeable
Depth to Bedrock:	0", on ground surface
Hazard to Flooding:	None

INCLUSIONS
(Within Mapping Unit)

Similar:	Ricker, Saddleback, Abram
Contrasting:	Rawsonville, Hogback

USE AND MANAGEMENT

Development of Wind Power Projects: Bedrock outcrop is generally well suited for construction of wind power turbine sites, due to the ability to anchor. This material does need to be blasted for road grading, but lends itself to anchoring roads on side slopes by "benching" (blasting with cut and fills), and does provide for an on-site road construction material if properly processed and re-used.

SADDLEBACK-RICKER COMPLEX

SETTING

Parent Material: Coarse loamy glacial till at elevations generally above 2,500 feet.

Landform: Glaciated ridges and uppermost limits of landforms.

Position in Landscape: Mountain tops, Saddleback soils are cryic (very cold soil temperature regime and usually found above 2,500’ in Maine).

Slope Gradient Ranges: **(C)** 8 – 20% **(D)** 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Well-drained (Saddleback) to excessively drained (Ricker), generally with no observed water table, or short-duration water table noted only after prolonged storm events or snowmelt.

Typical Profile Description: (Saddleback)
Surface layer: Dark grayish brown to very dusky red fine sandy loam, 0-8”
Subsurface layer: Dark reddish brown fine sandy loam, 8-12"
Subsoil layer: Reddish brown fine sandy loam, 12-19"
Meta sandstone and bedrock @ 19”.

Typical Profile Description: (Ricker)
Surface layer: Dark reddish brown to black fibric and hemic material, 0-10”
Subsurface layer: Black muck 4-7"
Subsoil layer: Dark bluish gray silt loam, 7-9"
Micaceous schist bedrock @ 9”.
NOTE: These soils occur in a non-regular, non-repeating pattern that could not be separated out in mapping. Saddleback is the dominant soil within the map unit.

Hydrologic Group: Group C/D for Saddleback
Group A for Ricker

Surface Run Off: Moderately rapid to rapid

Permeability: Moderate (Saddleback) to moderately rapid for Ricker.

Depth to Bedrock: Shallow, 10-20” for Saddleback. Ricker soils are very shallow <10” to moderately deep 20-40” above bedrock.

Hazard to Flooding: None

Erosion Factors: K: .17 - .24

INCLUSIONS

(Within Mapping Unit)

Similar: Abram, Hogback, Rawsonville
Contrasting: Naskeag

USE AND MANAGEMENT

Development of Wind Power Projects: The soils within this map unit are generally suited for construction of wind power projects, except that the Ricker soils with saturation may have further limitations for soil suitability. These soils can generally provide for solid anchor points, due to shallow depths to bedrock.

APPENDIX D

Soil Profile Descriptions

APPENDIX E

Glossary Of Soil Terminology

Depth Classes

These refer to the depth of the particle control section used to describe the central concept of each taxonomic unit. These are as follows:

Very shallow	less than 10” to bedrock
Shallow	10” to 20” to bedrock
Moderately deep	20” to 40” to bedrock
Deep	40” to 60” deep
Very deep	greater than 60”

Drainage Class

Drainage class is a reference to the frequency and duration of periods of soil saturation and/or action by seasonal groundwater tables, as evidenced by soil morphologic features identified within each respective soil profile.

Seven classes of soil drainage are recognized:

Excessively drained	Water is removed from the soil very rapidly. These are commonly very coarse-textured, rocky or shallow. All are free of soil mottling related to wetness.
Somewhat excessively drained	Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy-textured and very pervious/porous. Some are shallow. Some occur on steep slopes where much of the water they receive is lost as runoff. These too are free of observed mottling due to wetness.
Well drained	Water is removed from the soil readily, but not rapidly. It may be available for plant growth at the deepest rooting depths, and not so wet as to inhibit the growth of plant roots for significant periods during most growing seasons. Well drained soils are often medium textured, or contain restrictive subhorizons generally below 24”. They are mainly free of mottling related to wetness.

Moderately well drained	Water is removed from the spoils somewhat slowly during wet periods and spring seasons. Moderately well drained soils are saturated in the upper soil profile for short duration during the growing season. Often, they contain a slowly pervious (or restrictive) layer beneath the solum, and may receive additional runoff from upslope areas.
Somewhat poorly drained	Water is removed so slowly that the soil is wet for significant periods during the growing season. Somewhat poorly drained soils commonly have an impervious substratum that contributes to a perched water table, additional water through sideslope seeps, long continuous sheet flows below large watershed areas with few or no outlets, or a combination of these together.
Poorly drained	Water is removed from these soils so slowly that the soil is saturated during the growing season or remains wet for long durations. Water is present during the growing season which may be prohibitive to plant root growth, due to anaerobic/saturated conditions. These soils are classified as hydric, and may also have implications as wetlands.
Very poorly drained	Water is removed from these soils so slowly that free water can be observed at or very near the mineral soil surface for long durations during the growing season. These commonly occur on nearly level slopes or in depressional areas, and can be frequently ponded. Often they include thick organic surface horizons.

Hydrologic Soil Groups

A hydrologic soil group is a class of numerous soil series that all have the same runoff potential under similar climate and vegetative conditions. Soil properties that can influence runoff are those that affect minimum infiltration rates for a bare soil after prolonged wetting and with no frozen ground surface. Most important are depth to seasonal high groundwater table, permeability rates after prolonged wetting, and depth to slowly permeable (restrictive) layer.

Permeability

Permeability is the soil property which enables water to move downward through the soil profile. It is measured as the number of inches per hour of water that can be added to a particular soil as it moves downward through the unsaturated soil. Terminology and ranges are as flows:

Very slow	less than 0.06 in./hr
Slow	0.06 to 0.20 in./hr
Moderately slow	0.20 to 0.60 in./hr
Moderate	0.6 to 2.0 in./hr
Moderately rapid	2.0 to 6.0 in./hr
Rapid	6.0 to 20 in./hr

Soil Erodibility (K Factor)

The measure of soil erodability, or K factor, is the susceptibility of a soil particle to detachment and transport by rainfall. K factors for soil in Maine vary from 0.02 to 0.69. The higher the value, the more susceptible the named soil is to sheet or rill erosion by water.

Soil properties which influence erosion are those that can affect infiltration rates, movement of water through the soil profile and the water storage capacity of a soil. Other soil properties can affect the dispersion and mobility of soil particles by rainfall ad/or runoff. Some of the most important of these properties include soil layer, and the size and stability of the soil structural aggregates in the exposed faces of subsoils. Background levels of soil moisture and the presence of frozen soil horizons also can influence erosion.

Soil Texture

Soil texture refers to the USDA classification for the relative proportions by weight of the several soil particle size classes that are finer than 2 millimeters in diameter, which form the fine earth fraction. (Materials larger than 2 mm. in diameter are considered rock fragments).

Soil texture can influence on plant growth, or the soil mechanics of a particular site when used as construction and/or backfill material for foundations, etc. It influences such physical properties as load bearing strength, permeability, shrink/swell potential (frost action or due to wetness), compressibility and compaction. Rock fragment size and content can also affect applications for use as construction materials.

Soil Texture Modifiers

Named soil texture classes can be further modified by the addition of appropriate adjectives when rock fragment content approaches 15% by volume (i.e. gravelly sandy loam). "Mucky" or "peaty" are modifying terms used when organic matter content reaches 40% (i.e. mucky silt/loam).

Surface Runoff

Surface runoff is water that flows away from the soil over the surface of the site without infiltrating into the ground surface. It may originate from precipitation, or as drainage water from adjacent, upslope areas. The rate and amount of runoff are affected by internal physical characteristics of the soil as well as slope gradient ranges and landform shape (i.e. concave vs. convex slopes). Runoff can be significantly different on a given soil under natural vegetation, cultivation by man, or other kinds of management. Runoff from a particular site can also be affected by other factors such as rainfall amounts, snow pack accumulation or other climatic fluctuations. Surface runoff is usually significantly greater on frozen ground surfaces.

Six categories for runoff rates are provided:

Ponded	Little or none of the precipitation and run-on (from surrounding, higher elevations) escapes the site as runoff. Free water stands on or above the existing soil surface for significant periods of time. Ponding normally appears on level to nearly level (i.e. <3%) slopes, in depressions or within concavities in a pit/mound micro-relief topography. Water depth may vary considerably throughout the year, or from year to year. Often this is consistent with very poorly drained soils.
Very slow	Surface water flows away slowly, and free water may be present at the soil surface for portions of the year, or may infiltrate slowly into the soil surface when not ponded. These soils may be consistent with very poorly drained, or poorly drained soils that are coarser textured and somewhat porous.
Slow	Surface water flows away from the soil quickly enough, either due to slope or the porosity of the soils, so that free water can be observed at the soil surface for moderate periods immediately following spring snowmelt or prolonged storm rainfall events. Most of the water passes through the soil, is used by plants, or evaporates.
Medium	Surface water flows away quickly enough due to slope or soil porosity that water is observed at or near the soil surface for short durations, usually during spring snowmelt or immediately following significant storm rainfall events.

Rapid	Surface water flows away quickly enough that any period of saturation is brief, and free water does not stand on the soil surface. Only a small portion of the water enters the soil as infiltration, either due to steep slopes and/or fine textures with slow rates of absorption.
Very rapid	Surface water flows away so quickly that duration of any event is brief, and water never stands on the soil surface. Only a very small portion of the available moisture enters the soil as infiltration.

ADDITIONAL SOIL TERMS

Flooding (Hazard to flooding)	Flooding is the temporary covering of the soil surface by flowing water from any source, including but not limited to: streams or rivers overflowing their banks, runoff from adjacent or upslope areas, inflow from high tide action, or a combination of sources. Water due to snowmelt is excluded from this definition, as is standing or ponded water that forms a permanent or semi-permanent cover above the soil surface. Flooding hazard is further expressed by frequency classes, duration, and the time of year that the flooding occurs. The velocity and depth of the floodwater are also important factors.
Ponding	Ponding is standing water in a closed depression. The water is removed only by evaporation, transpiration by plants, or percolation through the ground.
Soil complex	A map unit that consist of two or more kinds of soils (i.e. soil series/taxonomic unit) that occur on a non-regular, non-repeating pattern that cannot be separated out at the scale provided. The order of the soils named are generally in order of predominance within the map unit.
Soil map unit	A collection of soils or soil areas that are delineated during soils mapping. It generally is an aggregate of several soil entities with a predominant named soil type. Kinds of soil map units may include complexes, consociations, or associations.

Soil slope gradient range

The slope identified for any given map unit, based on the immediate topography within a specific portion of the mapping site. Designations generally are as follows:

A	0-3%	nearly level to level
B	3-8%	gently sloping
C	8-20%	moderately sloping
D	20%+	steeply sloping

Stoniness

This is a phase of surface characteristic that may be identified in soils mapping, ranging from stony or bouldery (0.01 to 0.1% of soil surface covered with stones) to rubbly or rubble land, in which up to 75% of the soil surface is covered with stones. Extremely stony sites or sites with rubble land may have additional limitations for use of mechanized equipment.

Stony

The areas have enough stones at or near the surface to be a continuing nuisance during operations that mix the surface layer, but they do not make most such operations impractical. Conventional, wheeled vehicles can move with reasonable freedom over the area. Stones may damage both the equipment that mixes the soil and the vehicles that move on the surface. Usually these areas have class 1 stoniness. If necessary in a highly detailed survey, these areas may be designated as “slightly stony” and “moderately stony”.

Very Stony

The areas have so many stones at or near the surface that operations which mix the surface layer either require heavy equipment or use of implements that can operate between the larger stones. Tillage with conventionally powered farm equipment is impractical. Wheeled tractors and vehicles with high clearance can operate on carefully chosen routes over and around the stones. Usually, these areas have class 2 stoniness.

Extremely Stony

The areas have so many stones at or near the surface that wheeled power equipment, other than some special types, can operate only along selected routes. Tracked vehicles may be used in most places, although some routes have to be cleared. Usually, these areas have class 3 stoniness.

Rubbly	The areas have so many stones at or near the surface that tracked vehicles cannot be used in most places. Usually, these areas have class 4 or 5 stoniness. If necessary in a highly detailed survey, they may be designated as “rubbly” and “very rubbly’. If the soil has stones, boulders, and smaller fragments, the name includes the kind of rock fragment that are most limiting in the use or management of the soil. This is not necessarily the kind that is most abundant or the kind that is used to modify texture class of horizons in the profile description.

APPENDIX F

Photographs

HIGHLANDS WINDPOWER PROJECT
PHOTOGRAPHS

Photo 1: Existing Transmission Line 6.5 miles+/- from Wyman Dam (Extremely Stony to Rubbly phase).

Photo 2: Dry DEP stream channel near Test Pit 134.

Photo 3: Fractured bedrock escarpment near Test Boring 179.

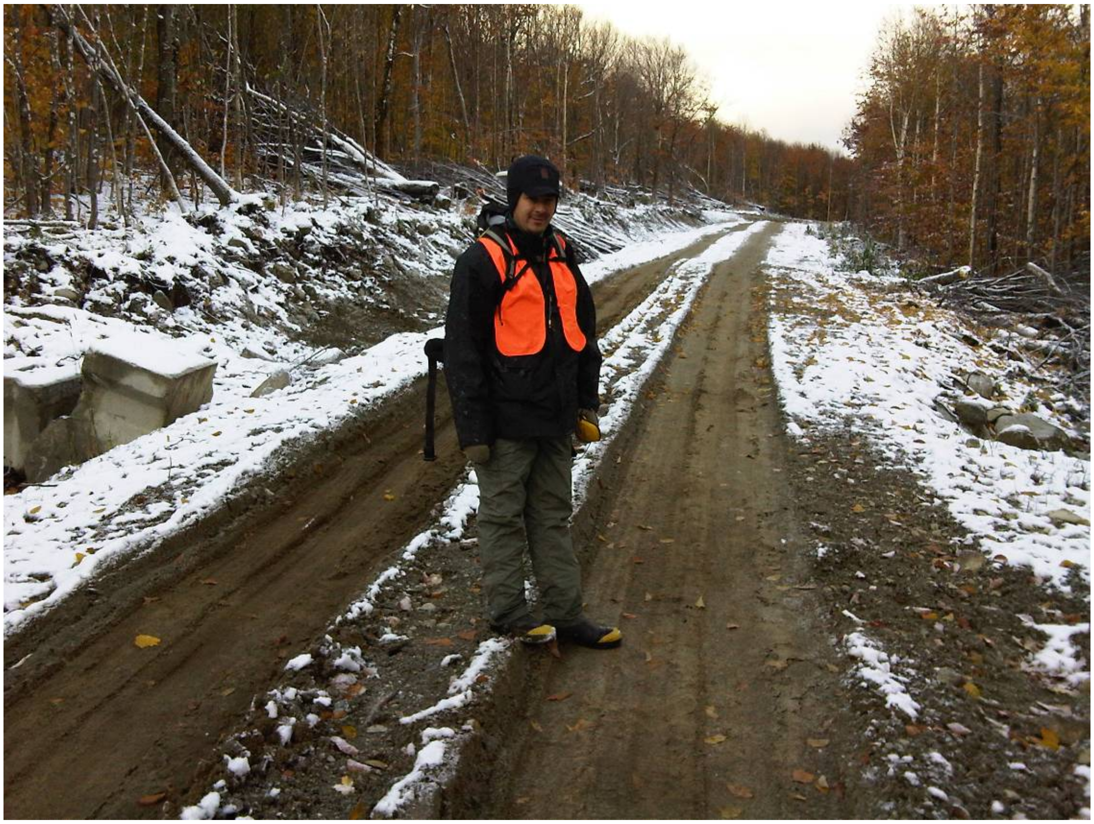

Photo 4: Portion of existing access road to westerly turbines.

Photo 5: *Mahoosuc* soil surface near Test Pit 189.

Photo 6: Mile 6 of existing transmission line viewed toward east.

Photo 7: Seep area identified along proposed access road from W-4 to W-5.

Photo 8: Seepage area near W-5 and W-6 access road.

Photo 9: Houston Brook on existing Transmission Line south of Rowe Pond Road.

Photo 10: Test Pit 156 *Colonel (Variant)*.

Photo 11: Proposed Turbine Site W-21 shallow to bedrock outcropping.

Photo 12: Test Pit 11, *Rawsonville*, sandy loam textured soil greater than 20 inches but less than 40 inches to bedrock.

Photo 13: Test Pit 14, *Ricker*, shallow organic horizon overlying bedrock.

Photo 14: Land form in vicinity of Test Pit 45 *Hogback,* sandy loam textured soil greater than 10 inches but less than 20 inches.

Photo 15: Test Pit 115 *Dixfield/Skerry*.

Photo 16: Test Pit 114 *Abram,* shallow to bedrock sandy loam soil overlying bedrock less than 10 inches in depth.

Photo 17: Test Pit 151 *Dixfield/Skerry*.

Photo 18: Test Pit 229 *Cornish*, alluvial deposit adjacent to Houston Brook.

Photo 19: Test Pit 230 *Colonel*, somewhat poorly drained gravelly sandy loam textured soil derived from glacial till.