Section 13
Soils Mapping, Erosion Control and Stormwater Management

13.0 SOILS MAPPING, EROSION CONTROL AND STORMWATER MANAGMENT

Highland is required to demonstrate that it has made adequate provision for fitting the proposal harmoniously into the existing natural environment in order to ensure there will be no undue adverse effect on natural resources in the area likely to be affected by the proposal. Three components of that demonstration are included in this Section of the Application. In addition, an Environmental Assessment is provided at Section 14 of this Application.

The Applicant, through its consultants, have performed soils mapping which demonstrates that the soils at the Project site are suitable for the proposed use, the results of which are located at Appendix 13-1. In addition, the Application provides the information necessary to demonstrate compliance with the erosion control requirements of Land Use Regulation Commission (LURC) Rule Chapter 10.25, M see Section 13.2 below and the civil plans shown in Exhibit 1. The stormwater calculations were performed using methodology developed in consultation with Maine Department of Environmental Protection (MDEP), and demonstrate the Project's compliance with MDEP Stormwater Rules. These calculations are provided in Appendix 13-2.

13.1 Soils Mapping

Albert Frick Associates, Inc. completed appropriate intensity soil surveys for the Highland Wind Project (Project) generating facility, Operations & Maintenance (O&M) building, and generator lead. See Appendix 13-1. 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.

13.2 Erosion Control

This erosion and sedimentation control plan has been developed to (1) satisfy the requirements of the LURC Chapter 10 Rules and Standards and (2) identify road construction and stormwater management techniques that will minimize unreasonable soil erosion and prevent potential reductions in the water storage capacity of existing soils. The plan identifies Best Management Practices (BMPs) that can be implemented during construction of the Project to minimize and control soil erosion. The plans, details, and specifications included in the plan identify appropriate BMPs for various soil and environmental conditions, explain the basis for their use, and provide details for their installation. Erosion control details are provided in Exhibit 1 (Refer to Sheets 600-609). Note that no component of this Project is located above 2,700 feet in elevation; therefore the erosion control plans do not address work under these conditions.

13.2.1 Overview of Erosion and Sedimentation Concerns

Activities that may potentially cause erosion during Project construction primarily consist of clearing and grading of the access roads and crane paths and grading and site preparation for the wind turbine clearings (i.e., foundations, crane pads, and rotor assembly areas). See Section 12.11 for more detailed clearing information. The critical areas for this site during construction are the steep slopes and any disturbance near wetlands and streams.

13.2.2 Erosion and Sedimentation Control Measures

The proposed erosion and sedimentation control plan includes installation of silt fencing, wood waste berms, erosion control mix, riprap slope protection, and rock sandwich road construction. These BMPs will be designed in accordance with the following Maine standard references for erosion and sedimentation control:

- Maine Erosion and Sedimentation Control Best Management Practices (MDEP, 2003);

- Erosion and Sediment Control Handbook for Maine Timber Harvesting Operations – Best Management Practices (1991); and
- Land Use Handbook – Section 6 – Erosion Control on Logging Jobs and Revision (Supplement) (effective January 5, 1981).

Erosion and sedimentation control design plans, details, and specifications will be reviewed by a State of Maine licensed Professional Engineer and Certified Professional in Erosion and Sedimentation Control who specializes in design and implementation of erosion control methods.

If winter or early spring construction occurs, the recommended winter construction BMPs will be followed. These include application of hay mulch at twice the standard rate and installation of a double row of sediment barriers for areas within 75 feet of a wetland. Winter construction specifications are also provided in Exhibit 1 (Refer to Sheet C-4).

Wood Waste Berms/Silt Fence

Wood waste berms, silt fence, or a combination of the two, will be installed down gradient of construction and clearing activities. In critical areas, particularly near wetlands, a double layer of silt fencing or wood waste berms may be installed. Multiple rows of wood waste berms/silt fencing also may be necessary in areas with long cuts. The final layout will be prepared in accordance with typical design methods in the above referenced BMPs documents. Silt fence should not be used in areas of concentrated stormwater runoff.

Erosion Control Mix

Erosion control mix (ECM) will be used to provide cover and stabilize slopes in denuded areas until vegetation is established. On steep slopes, erosion control mesh or fabric netting anchored with staples may be used with the ECM. Wood mulch generated by tree/stump grinding and other cleared woody vegetation will be used to provide cover material over bare slopes as an erosion control material. ECM should not be used in areas of concentrated stormwater runoff.

Riprap

Steeply sloped ditches along Project roadways will be stabilized using approximately sized riprap or processed blast rock armoring. Cross-culverts also may be necessary as part of this Project. Plunge pools, check dams, and level spreaders will be used to dissipate concentrated flows that might cause erosion and thereby protect culvert outlets.

Rock Sandwich Road Construction

Where appropriate, the erosive potential of water that otherwise would be concentrated in ditches will be minimized by the use of “rock sandwich” road construction. This method will be used in areas with high ground water or poor soils or other areas with sensitive hydrology. The “rock sandwich” will allow water to pass through the roadway subbase rather than being intercepted by the roadway. This will eliminate concentrated flows in ditches located on the uphill side of the road and allow water from uphill areas to continue flowing under the road through a layer of coarse rock.

Ditch Turnouts and Level Lip Spreaders

Ditches will be necessary primarily in cut sections of the roadway. Where ditches are needed, appropriately sized and placed cross-culverts and ditch turnouts will be used to dissipate collected stormwater runoff back to sheet flow. As recommended by MDEP and LURC Chapter 10 criteria, ditches will be designed so that ditch turnouts will end with a level lip spreader.

13.2.3 Site Plan

James W. Sewall Company prepared the road and turbine site design plans for this application that identify vegetation types and locations, slopes, and other nature features near the disturbed areas. The plans and accompanying details show and describe temporary and permanent erosion control measures.

13.2.4 Sequence of Construction

In general, erosion control measures will be installed down-gradient of each work area before earthwork begins. Construction activities will be sequenced to minimize the Project area that is disturbed and un-stabilized at any point in time. Disturbed and stockpiled soil will be temporarily stabilized at the end of each workday. Temporary erosion control measures will be the first items installed and the last items to be removed. Removal of temporary erosion control measures will occur only after healthy vegetation is established.

After preliminary layout and staking/flagging of the new road segments and areas to be cleared, erosion control measures will be installed. As the roads are constructed and areas are cleared, additional measures will be implemented. Once roads reach final grade, permanent measures, such as ditch turnouts and level spreaders, will be constructed.

Cleared areas will receive temporary mulching as required. Topsoil stockpiles will be protected by double measures such as temporary seeding and silt fences. After turbines are installed, a significant portion of each turbine clearing will be re-graded and ECM and stockpiled topsoil will be applied.

Because stabilization of areas following completion of final grading is very important to prevent erosion, areas will be stabilized within seven days of work completion. Final stabilization will primarily consist of coarse gravel or blast rock (Project roadways), ECM (turbine clearings and portions of crane paths), erosion control mix/matting (less steep earth cut and fill slopes), and riprap or blast rock (steep cut/fill slopes, ditches and culvert outlets).

13.2.5 Maintenance and Inspection of Erosion Control Measures

Maintenance of erosion control measures is essential to their successful operation. The Applicant will be responsible for ensuring that maintenance of erosion control measures will be completed in a timely manner. During construction, the prime contractor, who has yet to be determined, will have this responsibility. Erosion control measures will be inspected at least weekly and after any rainstorm greater than 0.5 inch. These regular inspections will be conducted by the Project General Contractor, who will be certified in erosion control practices by the MDEP. Periodic inspections also will be conducted by a third-party inspector who will be under direct supervision of a licensed Professional Engineer. Inspections will be documented in writing and be made available to LURC upon request. On-site workers will be instructed to report problems when they occur so remedial action can be taken as soon as possible.

13.2.6 Maintenance Plan

The following outlines the maintenance that will be applied to the various permanent erosion control measures and other features that could experience erosion.

<u>Ditches</u>

Rip-rap lined ditches

- Inspect semi-annually.
- Remove sediment buildup, leaves, litter or other debris from the bottom and side slopes.
- Reposition stones to restore channel to original dimensions.

Vegetated Ditches

- Inspect the ditch lining monthly for slumping of the lining, downcutting of the ditches base, or undercutting of the banks.
- Repair any damage immediately.
- Mow or brush-cut annually only as necessary to prevent the establishment of woody vegetation.

Culverts

- Inspect for sediment buildup.
- Flush pipes and remove sediment at which time the depth of sediment at any location in the pipe exceeds three inches.

Rip-Rap Aprons, Level Spreaders, and Ditch Turnouts

- Inspect semi-annually or after severe storms for dislodged stones or slumping of the stone lining.
- Inspect and verify that top of stone is level (+/-1").
- Repair level lip to distribute flows uniformly across the buffer
- Reposition stones to restore the pools original dimensions and a uniform surface.
- Clean any accumulated sediments and debris from the plunge pool.
- Cut and remove any woody vegetation growing within the pool.

Vegetation

- Inspect vegetated areas each spring.
- Rework and re-stabilize sparsely re-vegetated areas that show evidence of soil erosion.

Stones Check Dams

Prior to establishment of permanent vegetation

- Inspect check dams after each storm event until permanent vegetation is established.
- Remove sediment buildup behind check dams.

After establishment of permanent vegetation

- Inspect for sediment build-up in void space between stones and dislodged stones.
- Remove sediment build-up.
- Stabilize disturbed areas.
- Replace check dam if sediment is filling void space.
- Replace dislodged stones.

Road Grading

- Grade the road as necessary to maintain the proposed roadway crown or super elevation and to prevent the creation of berms or ruts that may channelize flow.

Side slopes of gravel surfaces

- Inspect slopes for rill erosion due to concentrated flows.
- Stabilize eroded slopes with ECM or other approved BMP method.

13.3 Stormwater Management

The construction of gravel roads, tower foundations, turbine pads, and an operations and maintenance area may create stormwater runoff in excess of what the Project area presently generates. It is important to mitigate this increase in stormwater runoff to prevent erosion or damage to downgradient ecosystems. In general, the stormwater control plan is designed to minimize the concentration of stormwater flows off the Project site. The primary components of the plan include minimizing the permanently impacted areas of the Project site and incorporating appropriate BMPs in the Project design. Plans showing stormwater buffers, phosphorous restriction areas, ditch turnouts, and sedimentation and erosion control measures are provided in Exhibit 1.

The primary effort in stormwater management will be to minimize the permanent impacts associated with the Project through the systematic re-vegetation of disturbed areas. The reestablishment of vegetation will occur principally within the areas of temporary impacts. Temporary impacts will be associated with the 34-foot wide crane path roads, and the approximately 332-foot diameter clearings required for assembly of the turbine rotors. Areas of temporary clearing and the reestablishment of vegetation in these areas are further discussed in Section 12.11.

The impacts to site hydrology from the proposed Project also will be minimized by the use of appropriate stormwater management BMPs such as culverts with outlet protection and level spreaders. These are discussed above in Section 13.2.

Buffers around the Project construction areas are vital to minimize construction-related impacts to existing wetlands, streams, and soils in the Project area. When developing the turbine site and road plans, the Project provided several types of buffers including general stormwater buffers. The length and width of the proposed buffers will be based on site-specific conditions, including land slope and soil type, as defined in Appendix F of the BMP Manual Chapter 500. Three types of stormwater buffers are proposed for use on this Project. The first type of buffer would be used in areas adjacent to the downhill side of the road, in which the runoff from the road will sheet directly into a buffer. The second type is a ditch turn-out buffer in which ditch runoff is diverted to a 20-foot-wide level spreader and then distributed into a buffer. The third type of buffer allows runoff to be diverted to a stone bermed level lip spreader and distributed into a buffer. The level lip spreaders have been sized according to the most recent version of the Maine BMP Manual.

13.3.1 Best Management Practice General and Phosphorous Standard

Due to its size and location, the Project is subject to the BMP General and Phosphorus Standard. The purpose of the BMP standards is to include treatment measures that will mitigate for the increase of channel erosive flows and treat the pollutants effectively, and to mitigate for the potential temperature impacts due to the runoff from the proposed site. The Project also must meet the Flooding Standard for the 2, 10 and 25-year-storm event to prevent flooding down gradient of the site.

The applicant proposes to meet the required **BMP General Standard** by doing the following.

The applicant proposes to use a combination of underdrain soil filters and buffers to treat the runoff from the Project site. Per Maine MDEP regulations, at least 75 percent of the linear portion of the Project (the access roads, crane paths, and turbine pads) and at least 50 percent of the developed area of the linear portion of the Project (access road and crane paths, associated grading, and landscaped area) must be treated. The nonlinear impervious area of the Project (O&M building and parking lot) must have 95 percent treatment and nonlinear developed area (O&M building and parking lot, grading and landscaping) must meet at least 80 percent treatment. The support documents that summarize the method of treatment, with their sizes, the contributing area of impervious surface and developed area, and the percentage of the Project's treatment met with each treatment system are provided in Appendix 13-2.

The applicant proposes to meet the **BMP Phosphorus Standard** as follows.

The applicant proposes to use a combination of buffers to treat the phosphorus from the Project site. Following MDEP regulations, the phosphorus export for the post-development conditions must be less than the phosphorus budget determined by the State for the Project site. The support documents that summarize the method of treatment, with their sizes, the contributing area of impervious surface, and the phosphorus export for both pre- and post-development conditions are provided in Appendix 13-2.

The applicant proposes to meet the **Flooding Standard** as follows.

As part of the flooding standard, runoff from the site must meet or be less than the pre-development flows or have an insignificant increase in flow off the site. Near the O&M building, the flooding standard will be addressed by storing runoff volume using soil filters. These structures are designed to collect, store, and control the stormwater runoff. To meet the quality standards, the soil filters were modeled to detain only the volume of water for which they were sized. The structures have been designed to accommodate the 2-, 10-, and 25-year storm events. The rest of the Project will use buffers with level lip spreaders to slow and return the runoff to sheet flow. The overall storm water management system has an insignificant increase in runoff and is designed to prohibit any adverse impact on areas downstream from the site.

Pre- and Post-Development Watershed plans illustrating watershed areas, hydraulic lengths lines, and physical features are provided in Exhibit 1 (Refer to Sheets C-701 through C-704). Support documents that summarize the method of treatment, with their sizes, the contributing area of impervious surface, and the calculations for both pre- and post-development conditions are provided in Appendix 13-2.

13.4 Phosphorus Analysis

The Project lies within the Gilman Pond, Carrabassett River, and Kennebec River Watersheds. Runoff from the Project has the potential to increase phosphorus within the Gilman Pond watershed. Buffers will be used throughout the Project to reduce the phosphorus loading to meet the MDEP standards in these areas. See the support documents in Appendix 13-2 for more detailed information.

The phosphorus analysis is based on several assumptions listed in this narrative and specific analytical methods described in "Phosphorus Control in Lake Watersheds: A Technical Guide to Evaluating New Development" published in January 2008 by the MDEP.

Gilman Pond's current calculated pound per acre phosphorus allocation is 0.038 pounds/acre. The Project area includes 21,470 acres that are within the direct watershed of Gilman Pond. The Small Watershed Threshold is 779 acres.

Linear portions of the Project are gravel or blast rock roadways. From the MDEP guidance documents, these portions have been assigned a phosphorus runoff coefficient of 1.75 pounds/acre/year. The permanent parking areas to remain at each turbine and the area around the base of the turbines have been assigned a coefficient of 1.25 pounds/acre/year. Using these methods, runoff will be treated to meet these standards.

Calculations demonstrating this analysis and indicating what buffers will treat each section of road are included Appendix 13-2.

Phosphorus treatment will be accomplished by extensive forested and roadside buffering. The Project roadways are being built on mountainous slopes, which in many cases exceed 15 percent in grade. MDEP has suggested additional BMP's that allow for a significant amount of additional roadway to be treated. Many roads will be super elevated to drain surface water from the road to the downhill ditch or fill slope. An 18-foot wide re-vegetated mulched area located on the downhill side of the roadway will function as a pre-filter for the road runoff, and will contribute to pretreatment of the water. This allows the road surface runoff to be treated either by sheet-flow roadside buffers, ditch turnouts, or buffers with stone bermed level lip spreaders. In buffer areas adjacent to roads where existing ground slopes are steeper than 15 percent, wood-waste berms will be utilized and located at the toe of the slope. The berm will reduce the likelihood that the flow from the road will concentrate. Rather, it will seep through the berm and be reintroduced to the mountainside as sheet flow. Where existing grades are steeper than 30 percent, no roadside, ditch turnout or stone bermed level lip spreader buffering is proposed because it is thought to be ineffective.

Phosphorus export from the Project has been calculated in the Gilman Pond watershed and will be reduced by providing buffers and treatment where practical. Phosphorus Encumbrance Zones (Zones) have been created based on the expected export associated with each watershed. These Zones are referred to as the total development areas in the phosphorus calculations. Due to the size of the Zones, the phosphorus export will be slightly less than that allowed in the phosphorus budget. Within these Zones, which are generally defined as a setback from the centerline of Project roads, no additional development resulting in permanent impervious areas will be allowed.

13.5 Re-vegetation Plan

Following construction, the lay down area and approximately 2.4 acres of the total 2.6 acre clearing for each circular turbine pad will be allowed to re-vegetate. To reduce the potential for erosion, topsoil material, previously stripped from the development areas and stockpiled, will be spread on these

relatively flat areas. Erosion control mix, primarily comprised of stump grindings and shredded organic material generated during clearing, will be mixed and spread with the topsoil material and allowed to naturally re-vegetate.

Following completion of road construction and turbine erection activities, these areas will be allowed to re-vegetate and will be inspected periodically to check for erosion. If erosion is noted, these areas will be further stabilized. Areas will continue to be inspected until a vegetative cover is established.

Topsoil stockpiles throughout the site will be protected from erosion and sedimentation through implementation of Best Management Practices. This will include encircling down-gradient sides of the stockpiles with silt fencing or erosion control mix berms. Slopes will be left in a roughened condition to help minimize runoff erosion.

Appendix 13-1

HIGHLAND WIND PROJECT

Highland Plantation and Pleasant Ridge Plantation, Maine

SOIL NARRATIVE REPORT

December 14, 2010

PREPARED FOR:

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1.0 Introduction

Albert Frick Associates hereby provides the Soil Survey for Highland Wind, LLC's proposed *Project* in *Highland Plantation* and *Pleasant Ridge Plantation, Maine*. This Soil Survey includes:

- a Class L level of soil survey as required by *Maine Department of Environmental Protection* and the *Maine Land Use Regulations* for *linear* projects (e.g. wind projects) in the area of the proposed turbine sites and proposed road alignment,
- a High Intensity Class B Soil Survey at the proposed operations and maintenance building location, and
- a modified Hybrid Class L Soil Survey along the proposed transmission corridor.

1.1 Overview of Project and Location

The Highland Wind Project energy generating facility located in Highland Plantation, Somerset County, Maine. In addition to the wind turbines, the Project includes a 34.5-kilovolt (kV) electrical collector system, an electrical collector substation, a 115-kV generator lead, an Operations and Maintenance (O&M) building, up to five permanent 80-meter meteorological towers, and a series of roads to construct and then access the turbines and related infrastructure. All projects components are proposed to be located in Highland Plantation; however the generator lead, which delivers power from the electrical collector substation to the New England grid, also passes through Pleasant Ridge Plantation on its way to the CMP-controlled substation in Moscow, Maine.

The Project will consist of the following components:

• A total of 39 turbines, along with associated electrical interconnection infrastructure and five permanent meteorological towers, installed in two distinct strings along ridges of the Witham Mountain, Bald Mountain, Burnt Hill and Briggs Hill in Highland Plantation, will be located at elevations between 1,553 and 2,237 feet above mean sea level, along ridges with elevations at approximately 700 feet.

The western string of the Project includes the 18 turbines located on the ridgeline that connects Witham Mountain, and Bald Mountain. The eastern string includes 21 turbines extending from the northeastern end of Burnt Hill south to Briggs Hill.

2.0 Purpose

This investigation is a Class L (linear) soils survey for the proposed project, as required by Maine law. A Class L Soil Survey for linear wind power projects is concentrated in the areas of proposed access roads, turbine pads, and laydown areas. The purpose of this Class L soils investigation is to provide soil information for the proposed Highland Wind project along the proposed corridor of the access road alignment and within the proposed turbine pad sites, and laydown areas. More specifically, the purpose of this Class L soil survey is to identify and quantify soils limitations at the site for the proposed wind power development, particularly with respect to any design accommodations necessary to address soil drainage, physical properties and/or depths to bedrock class.

The purpose of the High Intensity Class B Soil Survey in the Operations and Maintenance Building site is to identify any soils limitations to that more intensive use.

The purpose of the modified Class D Soil Survey for the proposed transmission corridor is to identify hydrologically sensitive soils which may require erosion and sedimentation control measures, or other special considerations that may require caution during construction.

The *Maine Department of Environmental Protection*, the *Maine Land Use Regulation Commission*, and *David Rocque, State Soil Scientist*, are interested in project designs which retain hydraulic connections and maintain the natural perched ground water and surface run-off pattern as much as is feasible. This is a particularly relevant to this project, where there are traversing 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. Currently, the *state of the art* of access road designs 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, which will be employed at the Highland wind project.

Albert Frick Associates' soil scientists examined the proposed access road corridors, turbine sites and transmission lines, identifying and survey-locating areas of soils which are:

1. poorly to somewhat poorly drained;
2. exhibit oxyaquic-like conditions (soils which are subjected to oxygen rich, seasonally perched ground water after rainfall events, e.g. early spring, late fall and during periods of heavy precipitation. These soils may exhibit more than one color or streaking, caused by differential organic matter accumulation in soil profile horizons);
3. intermittent drainages not included in wetland delineation streams;
4. subterranean mountain streams; OR
5. natural drainage swales that have potential to concentrate surface water runoff during periods of spring snowmelt, late fall rainfall, and/or during periods of extended heavy precipitation.

Where associates field identified soil areas that should be subject to drainage considerations in the development plans, they so noted on the soils plan.

In order to simplify the soils review, we overlaid a composite road alignment plan depicting cut and fill, grading, erosion and sediment control, cross-drainage techniques, and culverting, etc. onto the soils map.

3.0 Methodology

We performed soils identification, mapping and soil surveys 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. We performed a modified *Class D* soil survey for the proposed transmission line corridor to identify somewhat poorly to poorly drained soils, which might be sensitive to erosion and sediment control if the proposed construction were done at times when the soils were wet.

We examined the proposed road alignment, turbine sites, O & M building site, and Transmission Line Corridor in the field on June 22, 23, 24, 30, July 1, September 14, 15, 21, 23 and October 6, 7, 12 and 13, 2009 and December 11, 2010. *Albert Frick*, Certified Soil Scientist, accompanied by a Field Technician with a Global Positioning Systems (GPS) unit [Trimble GeoXT submeter accuracy] performed the field work. The latitude and longitude coordinates were recorded in UTMNAD 83.

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*).

This proposed wind project is sited in a remote mountainous area. Consequently, it is not feasible to utilize mechanized equipment (i.e. backhoe excavation, drilling rig, etc.) due to inaccessibility and environmental concerns in this remote location. In such situations,

the soil mapping standards allow for use of 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.

Field work consisted of documenting soil morphology and characteristics with hand dug test pits, borings and probes to bedrock and/or refusal. We identified test pits on-site with numbered flagging tape. AFA personnel located each test pit by submeter GPS. Soil types were identified and depicted on the proposed project Site Plan 1" = 100'.

We took additional confirmatory soil borings/observations by soil auger to assist in the placement of soil map unit boundaries onto the soil survey base map. AFA personnel located observed bedrock outcroppings by GPS survey to further identify shallow to bedrock soil map units, and project the relative depth to bedrock in the soil mapping units.

Soil map units were designed and structured to report the pertinent soil characteristics along with potential soil limitations for the proposed use and management of a Wind Power project site, so that the design team could take such limitations into account. Here, poor soil drainage is the primary concern in identifying soil limiting factors. Therefore, we used *ad hoc* symbols in places on the map to provide more detailed information about bedrock outcropping locations, groundwater seeps, surface water runoff, soil areas comprised of *oxyaquic*-like soils, intermittent and perennial streams or watercourses, and other natural features encountered on the property. We provided this additional detailed information where we anticipated that civil engineers should further evaluate the need for special cross drainage and/or erosion and sediment control measures.

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. 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 pit excavations and descriptions were performed to upgrade, refine, and modify the map within the project borders.

The Design and Permitting teams used the developing soils work, along with the topographic survey and wetland delineation 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. These specific areas were identified and additional measures were proposed by project engineers to address hydraulic 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, erosion and sediment control, and *soil textures/slopes* that will affect erosion potential.

4.0 Site Location/Setting

The proposed Highland Wind Project is located off *Long Falls Dam Road* and *Sandy Stream Valley Road* in *Highland Plantation, Maine*. The transmission corridor to Wyman Dam 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 existing transmission line.

5.0 General Site and Subsurface Conditions

The site primarily includes 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 soils generally derived from

glacial till sediments. These soils commonly exhibit a firm substratum which produces a perched ground water table.

6.0 Soil Map Unit Descriptions

The kinds of map units used in a survey depend primarily on the purposes of the survey and the pattern of the soils and miscellaneous areas in the landscape. The pattern in nature is fixed, and it is not exactly the same in each delineation of a given map unit. In soil surveys, these patterns must be recognized, and map units designed to meet the major objectives of the Survey. It must be remembered that soil interpretations are made for areas of land and the most useful map units are those that group similarities.

The soil map unit descriptions included in Appendix C provide details regarding the soil series encountered, and the composition of soils within the given map unit (both for the range of soil characteristics and the potential similar and dissimilar soil within the soil map unit). 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, the general soil limitations, and related recommendations 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 located within the cross-hatched blue area as shown on the plans. (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 (as outlined by the Civil Engineers).

The somewhat poorly drained soils, where seasonal high groundwater tables are within 12" of the mineral soil surface for a significant portion of the year, may require additional measures such as the addition of coarse granular fill, rock sandwich, or the installation of upslope curtain drain to intercept sheet flow drainage, 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. Jurisdictional wetland areas were intentionally avoided, or wetland filling impacts minimized, as part of the selection of the road alignment.

There currently are two existing graveled roads that reach the summits of *Briggs Hill* and *Stewart Mountain* (peaks within Project area), and a third existing graveled road that is within 700' of the *Witham Mountain* (peak within project area) summit. These existing roads are drivable by 2-wheel drive vehicles, and are clear examples that road access to the summits can be successfully accomplished. However, all the new proposed roads as well as upgraded road within the project have been subjected to substantially more review of soils, wetlands, topographic mapping, as well as extensive civil engineering proven practices of soil and erosion control standards for mountain access road construction.

A segment of the access roads to both *Burnt Hill* and *Witham Mountain*, as shown with the symbol for area recommended for cross-drainage, should be subject to standards and

acceptable practices of cross-drainage techniques that are designed by the Civil Engineers to respect the mountain hydrology.

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 landscape, 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), *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-like 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 INDIVIDUAL
SOIL MAP SHEETS (1 – 40)

APPENDIX C

Soil Map Unit Descriptions

ABRAM
(Frigid Lithic Haplorthod)

SETTING

Parent Material: Thin very shallow mantle of glacial till over bedrock

Landform: On mountains and high elevations

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:

Surface layer: Pinkish gray sandy loam, 0-2"
Subsurface layer: Very dusky red to brown sandy loam, 2-10"
Bedrock: Less than 10" (typical)

Hydrologic Group: D

Permeability: Moderately rapid in organic layers, moderate or moderately rapid on the mineral horizon

Depth to Bedrock: Very shallow, 0-10"

Hazard to Flooding: None

Erosion Factors: k: .17 - .32

INCLUSIONS
(Within Mapping Unit)

Similar: Ricker (cryic) Knob Lock (frigid), Hogback, Rawsonville, Rock Outcrop, Lyman, Tunbridge

Dissimilar: Naskeag, Mahoosuc, Dixfield

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, or can be a source of road construction material if bedrock is processed.

ABRAM-HOGBACK 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: Excessively drained (Abram) to well drained (Hogback) with a seasonal high groundwater table observed only for short durations after significant storm events or snowmelt, usually on top of bedrock.

Typical Profile Description:

(for Abram)

Surface layer: Pinkish gray sandy loam, 0-2"
Subsurface layer: Very dusky red to brown sandy loam, 2-5"
Bedrock @ 5"

(for Hogback)

Surface layer: Dark reddish brown fine sandy loam, 0-7"
Subsurface layer: Dark reddish brown fine sandy loam, 7-15"
Bedrock @ 15"

These two soils occur in a non-regular, non-repeating pattern that could not be separated out in mapping. It is estimated that Abram forms the majority of this map unit, while Hogback occupies the balance of the area.

Hydrologic Group: Hogback: Group B
Abram: Group D

Surface Run Off: Rapid
Permeability: Moderately rapid

Depth to Bedrock: Abram: 0-10" to bedrock
Hogback: 10-20" to bedrock

Hazard to Flooding: None
Erosion Factor: K: .17 - .64

INCLUSIONS
(Within Mapping Unit)

Similar: Knob Lock (frigid), Ricker (cryic), Rawsonville, Dixfield, Skerry, Marlow
Dissimilar: Mahoosuc, Rock Outcrop

USE AND MANAGEMENT

Development of Wind Power Projects: Abram and Hogback 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.

ABRAM-RICKER-ROCK OUTCROP COMPLEX
(Dysic Lithic Borofolists)

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:
(for Abram)
Surface layer: Pinkish gray sandy loam, 0-2"
Subsurface layer: Very dusky red to brown sandy loam, 2-5"
Bedrock @ 5"

(for Ricker)
Surface layer: Dark reddish brown to black peat, 7-0"
Subsurface layer: Dark bluish gray, very channery silt loam, 0-6"
Substratum: Bedrock

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. It is estimated that Abram occupies the most area of this map unit, with Ricker occupying less area and Rock Outcrop less area.

Hydrologic Group:
D: Abram/Rock Outcrop
A: Ricker
Note: NRCS lists Ricker as "A", however, a conference with David Rocque, State Soil Scientist, suggests expected run-off similar to Abram (D).

Surface Water Runoff: Rapid

Permeability: Moderately rapid in organic layers, moderate or moderately rapid on the mineral horizon

Depth to Bedrock: Very shallow to moderately deep, 0-10"

Hazard to Flooding: None

Erosion Factors: K: .17 - .49

INCLUSIONS
(Within Mapping Unit)

Similar: Hogback, Rawsonville, Lyman, Tunbridge

Dissimilar: Naskeag, Mahoosuc, Marlow

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, or can be a source of road construction material if bedrock is processed.

BRAYTON
(Aeric Haplaquepts)

SETTING

Parent Material: Compact loamy glacial till.

Landform: Depressions and toeslopes of glaciated uplands.

Position in Landscape: Lowest positions on landform.

Slope Gradient Ranges: **(A)** 0-3% **(B)** 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Poorly drained, with a perched water table 0 to 1.0 feet beneath the soil surface from November through May or during periods of excessive precipitation.

Typical Profile Description:

Surface layer:	Very dark grayish brown sandy loam, 0-5"
Subsurface layer:	Grayish brown sandy loam, 5-15"
Subsoil layer:	Olive gray fine sandy loam, 15-24"
Substratum:	Olive sandy loam, 24-65"

Hydrologic Group: Group C

Surface Run Off: Moderate to moderately rapid.

Permeability: Moderate in solum, moderately slow or slow in dense substratum.

Depth to Bedrock: Deep, greater than 40 inches.

Hazard to Flooding: None

Erosion Factors: K: .24 - .32

INCLUSIONS
(Within Mapping Unit)

Similar: Pillsbury, Colonel, Monarda, Westbury, Telos

Dissimilar: Naskeag, Peacham, Waskish

USE AND MANAGEMENT

Development for wind power projects: The limiting factor for development of wind power projects is wetness, since seasonal high groundwater tables within these map units are generally within 7" of the ground surface for long durations of the year. Groundwater perches on the firm substratum in Brayton, and this can carry significant amounts of runoff from long, upsloping watersheds. Importation of granular fill may be necessary to overcome limitations due to drainage for turbine pad construction, and maintaining cross drainage on new road sections will avoid concentration of stormwater. Brayton flows may have further implications as jurisdictional wetlands, when all three parameters of hydrophytic (wetland) vegetation, wet hydrology, and hydric (wetland) soils are present.

CHARLES (Limerick)
(Aeric Fluvaquents)

SETTING

Parent Material: Recently deposited alluvium sediment on flood plain.

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

Dissimilar: 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, Westbury, Telos

Dissimilar: Brayton, 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 during periods of heavy precipitation and spring run-off. 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.

COLONEL (Very Stony)
(Aquic Haplorthods)

SETTING

Parent Material: Compact loamy glacial till.

Landform: Glaciated uplands.

Position in Landscape: Intermediate positions on landform.

Slope Gradient Ranges: **(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 & 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".

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Dixfield, Skerry, Westbury

Dissimilar: Brayton, Pillsbury

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 during periods of heavy precipitation and spring run-off. 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)

Dissimilar: Charles, Medomak

USE AND MANAGEMENT

Development of Wind Power Projects: This soil map unit is subjected to periodic flooding and the flood hazard should be evaluated. 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

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, Croghan, Sunappe, Marlow, Berkshire, Monadnock
Dissimilar: Colonel, Hogback (10-20" to bedrock), Rawsonville (20-40" to bedrock), Sunappe

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, or by providing adequate cross-drainage techniques.

HERMON
(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:

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"

Hydrologic Group: Hermon: Group A

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: Skerry, Dixfield, Marlow, Waumbek, Becket, Hermon (D slopes in C unit), Colton, Monadnock, Adams

Dissimilar: Stetson, Waumbek (moderately well drained), Skerry, Colonel, Hogback (10-20" to bedrock), Rawsonville (20-40" to bedrock)

USE AND MANAGEMENT

Development of Wind Power Projects: Hermon soils are generally suited for the development of wind power projects. The Hermon map unit may also be a source of gravelly materials for use as road subgrades, etc.

HOGBACK
(Lithic Haplohumods)

SETTING

Parent Material: Loamy soils of glacial till over bedrock.

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) with a seasonal high groundwater table observed only for short durations after significant storm events or snowmelt, on bedrock surface.

Typical Profile Description:
Surface layer: Dark reddish brown fine sandy loam, 0-7"
Subsurface layer: Dark reddish brown fine sandy loam, 7-15"
Bedrock @ 10" to 20"

Hydrologic Group: Group B

Surface Run Off: Rapid

Permeability: Moderately rapid

Depth to Bedrock: 10-20" to bedrock

Hazard to Flooding: None

Erosion Factor: K: .17 - .64

INCLUSIONS
(Within Mapping Unit)

Similar: Abram, Rawsonville, Ricker [Knob Lock], Rock Outcrop

Dissimilar: Dixfield, Skerry, Mahoosuc, Naskeag, Berkshire

USE AND MANAGEMENT

Development of Wind Power Projects: Hogback soils are generally suited for development of wind power projects, in that wetness is generally not a factor in this mapping unit, and provides for solid and stable anchoring points for wind tower bases.

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: Saddleback, Ricker [Knob Lock], Dixfield, Skerry, Rawsonville
Dissimilar: Rock Outcrop

USE AND MANAGEMENT

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"

(for 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 fioen 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
Dissimilar: Rock Outcorp, 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 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
Dissimilar: Naskeag, Brayton, Pillsbury, Dixfield

USE AND MANAGEMENT

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:
(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 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: Ricker, Abram, Saddleback

Dissimilar: Rock Outcrop, Naskeag, Brayton, Pillsbury, Dixfield

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:

(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 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
Dissimilar: Naskeag, Brayton, Pillsbury, Rock Outcrop

USE AND MANAGEMENT

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 can provide solid and stable anchoring points for wind towers.

MADE LAND

SETTING

Parent Material: Variable

Landform: Variable

Position in Landscape: Variable

Slope Gradient Ranges: **(A)** 0-3% **(B)** 3-8%

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.

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

Dissimilar: 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

Development of Wind Power Project: This map unit consists of areas reworked by man, so that the soils are no longer taxonomically classifiable. Limiting factor for development is soil drainage, though somewhat difficult to determine in these map units. Proper foundation drainage or other site alterations recommended for construction. This map unit usually consists of existing graveled roadways.

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, generally found at the base of a steep bedrock slope.

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, Dixfield, Skerry, Monadnock, Berkshire

Dissimilar: Abram, Hogback, Saddleback, Pillsbury, Dixfield, Skerry

USE AND MANAGEMENT

Development of Wind Power Projects: The limiting factor 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. Wetter substrata may be evident underlying the boulders and stones in places, and flowing underground streams can occur in localized areas subject to surface and perched groundwater accumulation.

NASKEAG
(Aeric Haplaquods)

SETTING

Parent Material: Loamy and sandy glacial till over bedrock.

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, Brayton, Pillsbury, Hogback, Rawsonville

Dissimilar: Rock Outcrop, Naskeag (Variant-V.P.D.), Waskish

USE AND MANAGEMENT

Development of Wind Power Projects: The limiting factors 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. The underlying bedrock, generally within 40 inches of the surface, does generally provide for a firm structural foundation for construction if the wetness, due to perched ground water table, is properly addressed with drainage and/or suitable fill material.

NASKEAG (SWP)
(Aeric Haplaquods)

SETTING

Parent Material: Loamy and sandy glacial till over bedrock.

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 drained, with a perched water table 7" to 15" 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

Dissimilar: Rock Outcrop, Naskeag (Variant-V.P.D.), Waskish (Moosabec), Hogback, Rawsonville

USE AND MANAGEMENT

Development of Wind Power Projects: The limiting factors for development of wind power projects is wetness, due to a seasonal high groundwater table 7 to 12" from the soil surface for a significant portion of the year, and bedrock which varies generally from 20-40". The underlying bedrock, generally within 40 inches of the surface, does generally provide for a firm structural foundation for construction if the wetness, due to perched ground water tale, is properly addressed with drainage and/or suitable fill material.

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: (for 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"

(for 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: Waskish generally is found in the deeper to bedrock areas towards the center of the depression with Naskeag near the perimeter.

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: Lyman, Tunbridge, Colonel, Brayton, Swanton, PIllsbury
Dissimilar: Rock Outcrop, Peacham, 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: Compact loamy glacial till.

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

Dissimilar: Naskeag, Waskish, Mahoosuc

USE AND MANAGEMENT

Development of Wind Power Projects: The limiting factor 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. Adequate hydrologic cross drainage under roadways is appropriate for this soil map unit (i.e. rock sandwich, culvert cross drainage, adequate road subbase, etc.)

RAWSONVILLE
(Typic Haplorthods)

SETTING

Parent Material: Loamy glacial till over bedrock.

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"
Bedrock @ 20"-40" (typical)

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, includes shallow to bedrock, moderately well drained soils, with perched water table on top of bedrock

Dissimilar: Naskeag, Rock Outcrop, Mahoosuc

USE AND MANAGEMENT

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 with underlying bedrock presence.

RAWSONVILLE-HOGBACK COMPLEX

SETTING

Parent Material: Loamy glacial till formed on top of bedrock

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:
(for 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 fioen sandy loam, 19-28"
Bedrock @ 28"

(for Hogback)
Surface layer: Dark reddish brown fine sandy loam, 0-7"
Subsurface layer: Dark reddish brown fine sandy loam, 7-15"
Bedrock @ 15"
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: .17 - .64

INCLUSIONS
(Within Mapping Unit)

Similar: Dixfield, Skerry, Hermon, Saddleback
Dissimilar: Rock Outcrop, Naskeag

USE AND MANAGEMENT

For Development of Wind Power Projects: Rawsonville-Hogback soils are generally suited for construction of wind power projects, since drainage is not a significant limitation within these map units, and Rawsonville-Hogback can provide solid and stable anchoring points for wind towers.

RICKER (cryic) [Knob Lock (frigid)]
(Dysic Lithic Cryofolists)

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

Hydrologic Group: **D*** **Note:** Natural Resource Conservation Service lists as Hydrogeologic Group "A", however, discussion with David Rocque, State Soil Scientist, suggested soil is expected to perform similarly to Abram, which is rated as "D". Used D to be conservative until further notice.

Surface Runoff: Rapid

Permeability: Moderately rapid in organic layers, moderate or moderately rapid on the mineral horizon

Depth to Bedrock: Very shallow to moderatel;y deep, 0-10"

Hazard to Flooding: None

Erosion Factors: K: .17 - .49

INCLUSIONS
(Within Mapping Unit)

Similar: Knob Lock (frigid), Abram, Hogback, Rawsonville

Dissimilar: Rock Outcrop, 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-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 Water 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: Knob Lock (frigid), Hogback, Rawsonville, Saddleback

Dissimilar: Rock Outcrop, Naskeag

USE AND MANAGEMENT

Development of Wind Power Projects: The soils within this map unit are generally suited for 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: **D*** Ricker **Note:** Natural Resource Conservation Service lists as Hydrogeologic Group "A", however, discussion with David Rocque, State Soil Scientist, suggested soils is expected to perform similarly to Abram, which is rated as "D". Used D to be conservative until further notice.
D Rock Outcrop (not listed by NRCS), projected

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: Hogback, Rawsonville

Dissimilar: Rock Outcrop, Naskeag, Mahoosuc

USE AND MANAGEMENT

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

This mapping unit consists of areas of exposed bedrock.

USE AND MANAGEMENT

Development of Wind Power Projects: Rock Outcrop is generally suited for development of wind power projects, in that wetness is generally not a factor in this map unit, and it provides for solid and stable anchoring points for wind tower bases. This map unit is generally found on the top of a drainage shed along ridge tops and consequently is not subjected to large upslope drainage flows.

ROCK OUTCROP-ABRAM-HOGBACK 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: Excessively drained (Abram) to well-drained (Hogback) with a seasonal high groundwater table observed only for short durations after significant storm events or snowmelt, usually directly on top of bedrock.

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"
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 soils occur in a non-regular, non-repeating pattern that could not be separated out in mapping. It is estimated that Rock Outcrop surface forms the largest portion of this map unit, while Abram occupies the next largest area followed by Hogback.

Hydrologic Group:
Rock Outcrop: Group D
Abram: Group D
Hogback: Group B

Surface Run Off: Rapid

Permeability: Moderately rapid

Depth to Bedrock:
Rock Outcrop: 0" of soil cover
Abram: 0-10" to bedrock
Hogback: 10-20" to bedrock

Hazard to Flooding: None

Erosion Factor: K: .17 - .64

INCLUSIONS
(Within Mapping Unit)

Similar: Ricker (cryic), Knob Lock (frigid), Rawsonville, Dixfield, Skerry, Marlow

Dissimilar: Mahoosuc, Rock Outcrop

USE AND MANAGEMENT

Development of Wind Power Projects: Rock Outcrop, 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. This map unit is generally found on the top of a drainage shed along ridge tops and consequently is not subjected to large upslope drainage flows.

SKERRY
(Aquic Haplorthods)

SETTING

Parent Material: Loamy glacial till underlain by sandy textured denser till.

Landform: Drumlins and glaciated uplands.

Position in Landscape: Usually occupies upper components 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 3.5 feet below the soil surface from November through May.

Typical Profile Description:

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: Group C

Surface Run Off: Moderate

Permeability: Moderate in solum and slow or moderately slow in the compact substratum.

Depth to Bedrock: Deep, greater than 40".

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Dixfield, Herman

Dissimilar: Colonel, Westbury

USE AND MANAGEMENT

Development of Wind Power Projects: Skerry soils are generally suited for development of wind power projects, in that these soils are moderately well drained with 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.

APPENDIX D

Soil Profile Descriptions

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)

Depth	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	DARK BROWN / DARK YELLOWISH BROWN	
10–20			LIGHT OLIVE BROWN	
20–30		FIRM	OLIVE BROWN	FEW, FAINT
30–50	REFUSAL (BEDROCK)			

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

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

Observation Hole TP 2 ■ Test Pit ☐ Boring

_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	DARK BROWN / GRAY (ALBIC)	
10–20			STRONG BROWN	FEW FAINT
20–30	REFUSAL (BEDROCK)			

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

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

Depth	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	GRAY (ALBIC) / STRONG BROWN	
10–20			LIGHT OLIVE BROWN	△△△ FREE WATER (WEEK OF HEAVY RAIN ABNORMALLY HIGH)
20–30	REFUSAL (BEDROCK)			

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

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

Observation Hole TB 4 ☐ Test Pit ■ Boring

_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	DARK BROWN / DARK REDDISH BROWN	
10–30				
30–50	REFUSAL (BEDROCK)			

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:
RAWSONVILLE	WELL	C

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 TP 5 ■ 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	GRAY (ALBIC)	
10–20			YELLOWISH BROWN	FREE WATER (ABNORMALLY HIGH 1 WEEK OF RAIN)
20–50	REFUSAL (BEDROCK)			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	8–20 %	19 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	HOGBACK/RAWSONVILLE (ATYPICAL)	MODERATELY WELL	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
0–10	ORGANIC SANDY LOAM	FRIABLE	DARK BROWN / STRONG BROWN	
10–50	BEDROCK			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	8–20 %	8 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	ABRAM	EXCESSIVELY	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
0–10	SANDY LOAM	FRIABLE	DARK BROWN / STRONG BROWN	FREE WATER (ABNORMALLY HIGH 1 WEEK OF RAIN)
10–30			LIGHT OLIVE BROWN	
30–50	REFUSAL (BEDROCK)			

NOTE: RECOMMEND AREA FOR CROSS-DRAINAGE

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	8–20 %	28 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE OXYAQUIC	WELL	C

Observation Hole TP 8 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	GRAY (ALBIC) / STRONG BROWN	
10–20				
20–50	REFUSAL (BEDROCK)			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	20 %	19 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	HOGBACK	WELL	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

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	YELLOWISH BROWN	FREE WATER (Δ Δ Δ)
10–20				
20–50	REFUSAL (BEDROCK)			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	20 %	23 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	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
0–10	GRAVELLY LOAMY SAND	FRIABLE	DARK BROWN / LIGHT YELLOWISH BROWN	
10–20				FREE WATER (Δ Δ Δ)
20–50	REFUSAL (BEDROCK)			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	20 %	18 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	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
0–10	FINE SANDY LOAM	FRIABLE	GRAY / STRONG BROWN	
10–20	GRAVELLY FINE SANDY LOAM			FREE WATER (Δ Δ Δ)
20–50	BEDROCK			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	8-20 %	24 "	☐ Ground Water ■ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS 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
0–10	ORGANIC	LOOSE	BLACK	
10–20	BEDROCK			
20–50				

NOTE: DEPTH OF ORGANIC LAYER OVER BEDROCK VARIES THROUGHOUT LANDFORM.

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RICKER	WELL	D*

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Albert Frick — Site Evaluator / Soil Scientist Signature

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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 TP 13 ■ 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	
10	BEDROCK			
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	8-20 %	0-10"	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING

Soil Series Name	Drainage Class	Hydrologic Group
ABRAM	EXCESSIVLEY	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				

FOR WASTEWATER DISPOSAL

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

FOR SOILS MAPPING

Soil Series Name	Drainage Class	Hydrologic Group
RICKER (INCLUSION)	WELL	D*

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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		
10	BEDROCK			
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL

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

FOR SOILS MAPPING

Soil Series Name	Drainage Class	Hydrologic Group
RICKER/ROCK OUTCROP (INCLUSION)	WELL	D*

Observation Hole TB 16 ☐ Test Pit ■ Boring
" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
20				
30	REFUSAL (BEDROCK)			
40				
50				

FOR WASTEWATER DISPOSAL

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

FOR SOILS MAPPING

Soil Series Name	Drainage Class	Hydrologic Group
RAWSONVILLE	WELL	C

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Albert Frick — Site Evaluator / Soil Scientist Signature

163/166 — 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 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			
40	SMALL INCLUSION SLIGHTLY OUTSIDE TURBINE AREA			
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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	ORGANIC	FRIABLE	DARK REDDISH BROWN	
10	BEDROCK			
20				
30				
40				
50				

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

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	D*

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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

FOR SOILS 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			
40				
50				

Soil Classification Profile	Condition	Slope	Limiting Factor	
N/A		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

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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
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE	WELL	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
0–10	SANDY LOAM	FRIABLE	DARK BROWN / STRONG BROWN	
10–20				
20–30	BEDROCK			
30–50				

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE	WELL	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
0–10	ORGANIC / COARSE SAND	FRIABLE	BLACK / GRAY	
10–20	BEDROCK			
20–30				
30–40				
40–50				

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	8-20 %	8-10 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	ABRAM (VARIANT)	EXCESSIVELY	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
0–10	ORGANIC / MUCKY PEAT	FRIABLE	BLACK	△△△ FREE WATER
10–20				
20–30	BEDROCK			
30–40				
40–50				

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	8-20 %	0 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	NASKEAG/WASKISH (VARIANT)	POORLY	C

Albert Frick — Site Evaluator / Soil Scientist Signature

163/166 — 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

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

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 10, 20, 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 SOILS MAPPING →

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

Observation Hole TB 26 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
ORGANIC			
BEDROCK			

NOTE: DEPTH OF ORGANIC LAYER OVER BEDROCK VARIES

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 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	D*

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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

Observation Hole TB 27 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

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

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

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

Observation Hole TB 28 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
ORGANIC			
BEDROCK			

DEPTH BELOW MINERAL SOIL SURFACE (inches): 0, 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 (VARIANT)	WELL	D*

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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 TB 29 ☐ 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 / YELLOWISH BROWN	
10–20			YELLOWISH BROWN	
20–30	COBBLY SANDY LOAM	FIRM	LIGHT OLIVE BROWN	COMMON DISTINCT
30–40	REFUSAL			

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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
0–10	SANDY LOAM	FRIABLE	DARK BROWN / STRONG BROWN	
10–20			YELLOWISH BROWN	
20–30	BEDROCK			

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	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
0–10	ORGANIC SANDY LOAM	FRIABLE	BLACK GRAY	
10–20	BEDROCK			

NOTE: PROBES IN AREA EXHIBITED THICKER AND THINNER ORGANIC LAYER OVER OVER THIN MINERAL SOIL HORIZON ON BEDROCK INCLUSIONS OF RICKER

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER/ABRAM	WELL	D*

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Observation Hole TB 32 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–10	ORGANIC			
10–20	BEDROCK			

NOTE: PROBES IN AREA EXHIBITED THICKER AND THINNER ORGANIC LAYER OVER OVER THIN MINERAL SOIL HORIZON ON BEDROCK INCLUSIONS OF RICKER

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

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER/ABRAM	WELL	D*

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS *

6/23/09 — Date

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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	
10	SANDY LOAM	FRIABLE	GRAY	COMMON DISTINCT
20	BEDROCK			
30				
40				
50	NOTE: SWP DEPRESSIONAL AREA			

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

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

Observation Hole TB 34 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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

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

FOR SOILS MAPPING →

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

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

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		
50	(INCLUSION IN SHALLOW TO BEDROCK UNIT)			

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	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

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 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			
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

FOR SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
ABRAM	EXCESSIVELY	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				
	SANDY LOAM	FRIABLE	SOIL COLORS NOT RECORDED FOR HORIZONS IN BORING	
10				
20				
30	BEDROCK			
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A (Profile / Condition)	8-20 %	29 "	☐ 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 39 ☐ 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	NOTE: PROBES IN AREA EXHIBITED THICKER AND THINNER ORGANIC LAYER OVER OVER THIN MINERAL SOIL HORIZON ON BEDROCK INCLUSIONS OF RICKER			
40				
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER/ABRAM	WELL	D*

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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			
20				
30	NOTE: PROBES IN AREA EXHIBITED THICKER AND THINNER ORGANIC LAYER OVER OVER THIN MINERAL SOIL HORIZON ON BEDROCK INCLUSIONS OF RICKER			
40				
50				

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:
RICKER/ABRAM	WELL	D*

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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 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
30	REFUSAL (BEDROCK)			
40				
50				

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

FOR SOILS MAPPING	Soil Series Name	Drainage Class	Hydrologic Group
	RAWSONVILLE	WELL	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 (Profile / Condition)	Slope	Limiting Factor	
N/A	8-20 %	30 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name	Drainage Class	Hydrologic Group
DIXFIELD (INCLUSION)	WELL	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

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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 (Profile / Condition)	Slope	Limiting Factor	
	N/A	8-20 %	19 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name	Drainage Class	Hydrologic Group
	HOGBACK	WELL	B

Observation Hole TP 44 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	20 %	20 "	☐ 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 #

6/23 & 6/24/09 — 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 45 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE	DARK BROWN	
10			STRONG BROWN	
	BEDROCK			
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

Observation Hole TP 46 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	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 47 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE	DARK REDDISH BROWN	
10	SANDY LOAM	FRIABLE	GRAY	
	BEDROCK			
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	D *

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Observation Hole TB 48 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE	REDDISH BROWN	
	BEDROCK			
10				
20				
30				
40				
50				

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

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER (VARIANT)	WELL	D*

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS *

6/24/09 — 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 49 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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

FOR WASTEWATER DISPOSAL

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

FOR SOILS MAPPING

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

Observation Hole TB 50 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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

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:
NASKEAG	POORLY	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

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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

NOTE: DEPTH OF ORGANIC LAYER OVER BEDROCK VARIES

FOR WASTEWATER DISPOSAL

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

FOR SOILS MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER/ABRAM	WELL	D *

Observation Hole TB 52 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
10–20	BEDROCK			

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

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS *

6/24/09 — 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 53 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)

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

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

Observation Hole TP 54 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)

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

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

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	D*

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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

Observation Hole TB 55 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
ORGANIC			
BEDROCK			

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
ROCK OUTCROP/ABRAM	WELL	D

Observation Hole TP 56 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)

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

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

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

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS #

6/24/09 — 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 TB 57 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				ΔΔΔ FREE WATER
10	MUCKY PEAT	LOOSE	NO COLORS TAKEN ON BORING	
20				
30				
40		LIMIT OF EXCAVATION		
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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

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

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

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

Observation Hole TB 59 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER/ABRAM	WELL	D

Observation Hole TB 60 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		NO COLORS TAKEN ON BORING	
10		BEDROCK		
20				
30				
40				
50				

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

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

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS #

6/24/09 — 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 61 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	PEAT / SANDY LOAM	LOOSE / FRIABLE	DARK REDDISH BROWN / GRAY	
10	BEDROCK			
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

Observation Hole TB 62 ☐ Test Pit ■ Boring
" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE	STRONG BROWN	
20		SOMEWHAT FIRM	LIGHT OLIVE BROWN	FEW FAINT COMMON DISTINCT
30				
40	REFUSAL (BEDROCK)			
50				

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

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE (VARIANT)	MODERATELY WELL	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)	Texture	Consistency	Color	Mottling
0				
10	OMITTED			
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:

Observation Hole TP 64 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	PEAT / SANDY LOAM	LOOSE / FRIABLE	DARK REDDISH BROWN / GRAY	
10	BEDROCK			
20	NOTE: DEPTH OF ORGANIC LAYER OVER BEDROCK VARIES			
30				
40				
50				

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

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

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS #

6/24/09 — Date

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

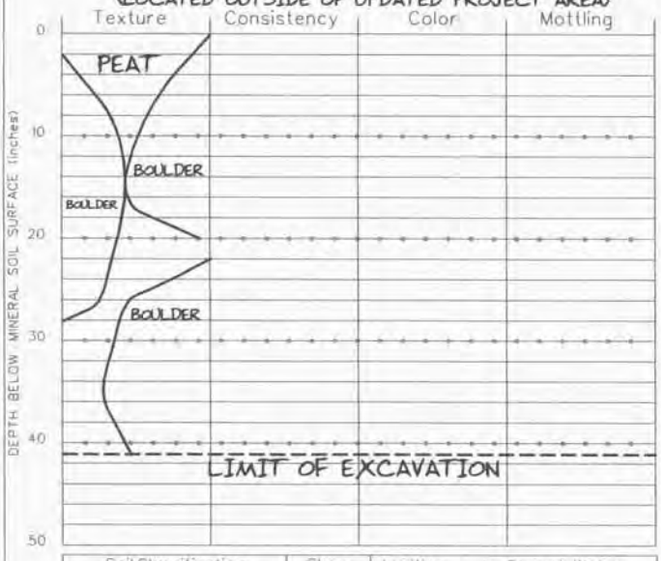
Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

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

Observation Hole TB 65 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

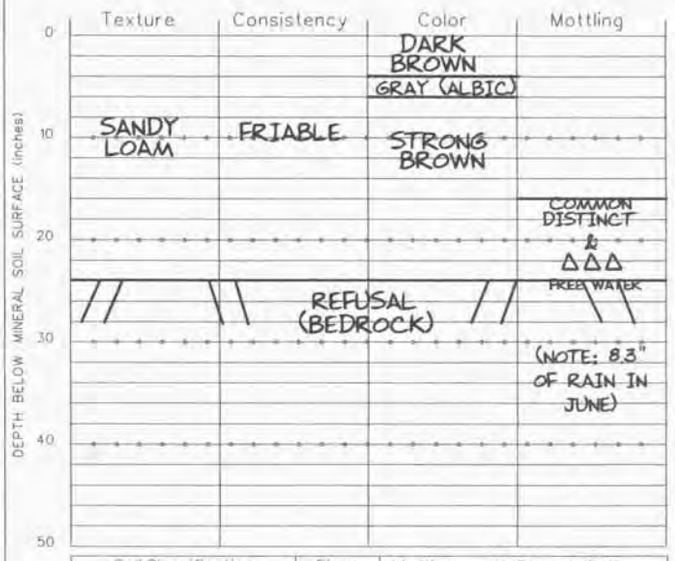


FOR WASTEWATER DISPOSAL	Soil Classification	Slope	Limiting Factor	
	N/A (Profile / Condition)	20 %	+41 "	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ■ Pit Depth

FOR SOILS MAPPING	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



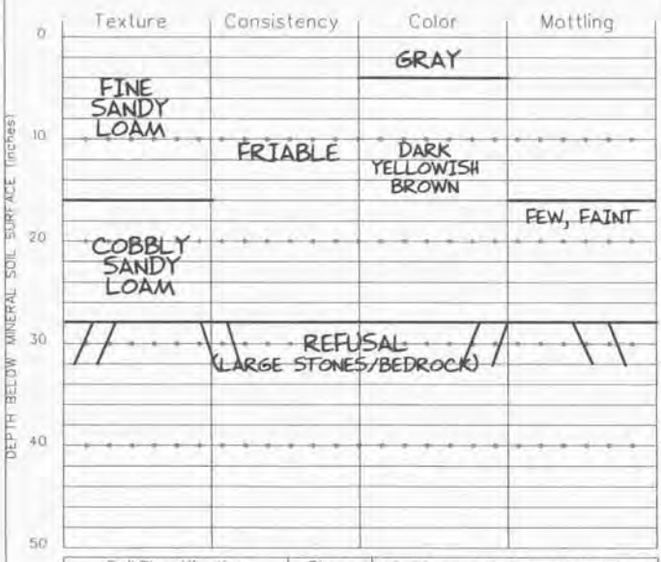
FOR WASTEWATER DISPOSAL	Soil Classification	Slope	Limiting Factor	
	N/A (Profile / Condition)	8-20 %	15 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE (VARIANT)	MODERATELY 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

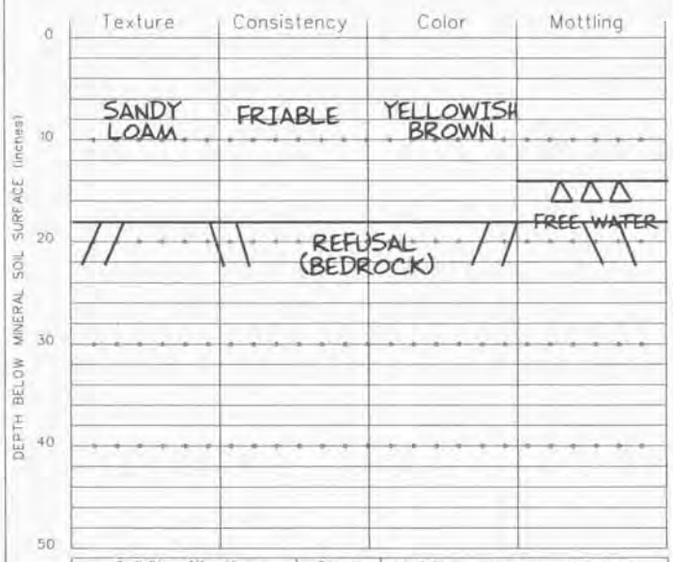


FOR WASTEWATER DISPOSAL	Soil Classification	Slope	Limiting Factor	
	N/A (Profile / Condition)	8-20 %	16 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS 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



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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	HOGBACK	MODERATELY WELL	B

Albert Frick

Site Evaluator / Soil Scientist Signature

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SE/CSS #

6/24 & 6/30/09

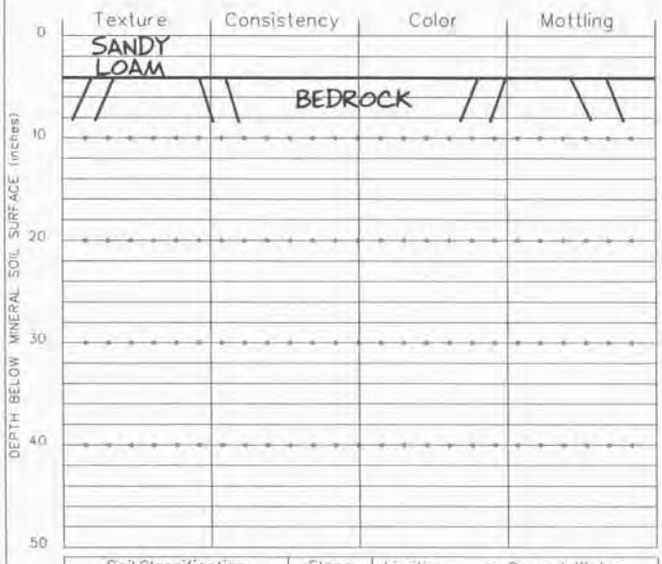
Date

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)

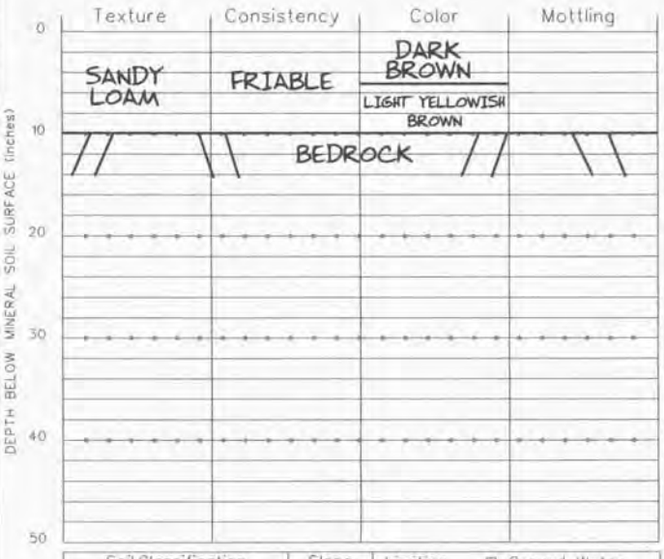
Observation Hole TB 69 ☐ Test Pit ■ Boring
" Depth of Organic Horizon Above Mineral Soil



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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	ABRAM	EXCESSIVELY	D

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

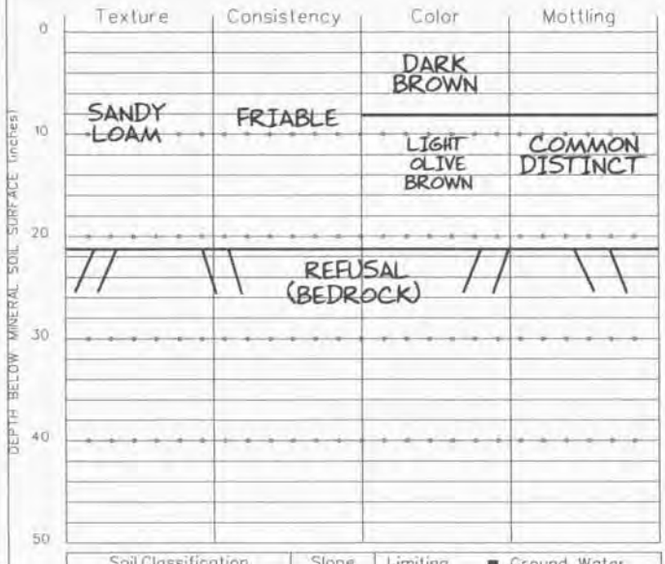


Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	8-20 %	9 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

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

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

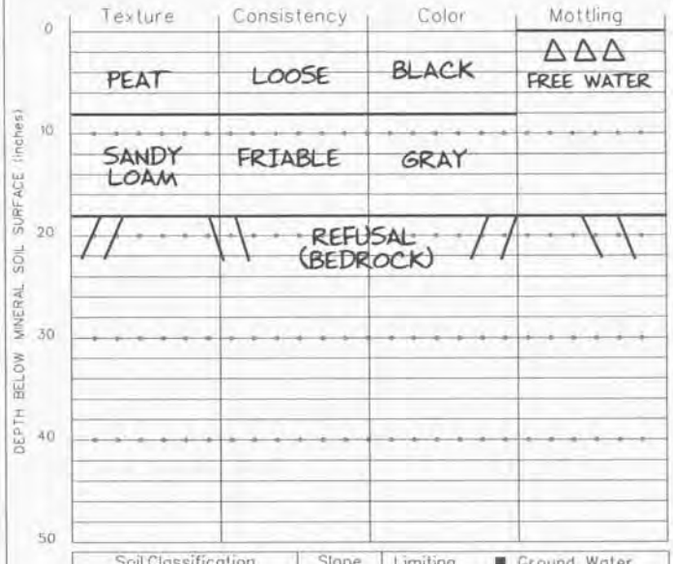
Observation Hole TP 71 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil



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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	NASKEAG	POORLY TO SOMEWHAT POORLY	C

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



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

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

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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 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				
50				

NOTE: ALL ALONG SIDE SLOPE FROM TP 72 CROSS-DRAINAGE IS RECOMMENDED

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:
NASKEAG	POORLY	C

Observation Hole TB 74 ☐ Test Pit ■ Boring
" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
20				
30				
40		LIMIT OF EXCAVATION		
50				

WELL-DRAINED INCLUSION ON RIDGELINE

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	NO COLORS TAKEN ON BORING	
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

FOR SOILS 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
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE	YELLOWISH BROWN	△△△ FREE WATER (DUE TO EXCESSIVE RAIN IN JUNE 8.5")
20		REFUSAL (BEDROCK OR BASAL TILL)		
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

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163/66 — SE/CSS #

6/30/09 — 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 77 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)

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

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	D*

* LISTED AS "A" PER NRCS, STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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

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				
30	BEDROCK			
40				
50				

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

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER (VARIANT)	WELL	D*

* LISTED AS "A" PER NRCS, STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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	
10			GRAY	
	SANDY LOAM	FRIABLE	STRONG BROWN	
20				
30	BEDROCK			
40				
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

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

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	
10			GRAY	
	SANDY LOAM	FRIABLE	STRONG BROWN	
20				
30	BEDROCK			
40				
50				

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	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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6/30/09 — 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 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 (Profile / Condition)	Slope	Limiting Factor	
N/A	3-8 %	1 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING →

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 SANDY LOAM	FRIABLE	BLACK	
10	BEDROCK		GRAY	
20				
30				
40				
50				

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

FOR SOILS MAPPING →

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

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	D*

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Albert Frick
Site Evaluator / Soil Scientist Signature

163/66
SE/CSS *

6/30/09
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 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			
30				
40				
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

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

Observation Hole TP 86 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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 (Profile / Condition)	Slope	Limiting Factor	
N/A	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 87 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

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

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	
20	BEDROCK			
30				
40				
50				

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	20 %	11 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

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

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Albert Frick
Site Evaluator / Soil Scientist Signature

163/66
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6/30/09
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 89 ☐ Test Pit ■ Boring
" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE	DARK BROWN	
10	BEDROCK			
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 SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER/ABRAM	WELL	D

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	
20	BEDROCK			
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

FOR SOILS MAPPING →

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			
10	BEDROCK			
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	D *

* LISTED AS "A" PER NRCS, STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS *

6/30/09 — 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 93 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC SANDY LOAM	FRIABLE	DARK BROWN	
	BEDROCK			
10				
20	NOTE: DEPTH OF ORGANIC LAYER OVER BEDROCK VARIES			
30				
40				
50				

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

FOR WASTEWATER DISPOSAL →

FOR SOILS MAPPING → Soil Series Name:	Drainage Class:	Hydrologic Group:
ABRAM-RICKER (VARIANT)	WELL	D

Observation Hole TB 94 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC			
	SANDY LOAM		NO COLORS TAKEN ON BORING	△△△ FREE WATER
10				
20	BEDROCK			(8.3" OF RAIN IN JUNE)
30				
40				
50	NOTE: INCLUSION			

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

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

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

Observation Hole TB 95 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
20				FEW FAINT
	REFUSAL (LARGE STONES/BEDROCK)			
30				
40				
50				

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

FOR WASTEWATER DISPOSAL →

FOR SOILS MAPPING → 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)	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE	DARK BROWN	
	BEDROCK			
10				
20				
30				
40				
50				

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

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	D *

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS #

6/30/09 — 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 97 ☐ 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	NO COLORS TAKEN ON BORING	
10–20	REFUSAL (LARGE STONES/BEDROCK)			

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

FOR SOILS MAPPING	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)	Texture	Consistency	Color	Mottling
0–10	ORGANIC	LOOSE	DARK GRAYISH BROWN	
10–20	SANDY LOAM	FRIABLE	OLIVE GRAY	COMMON, DISTINCT Δ Δ Δ FREE WATER
20–30	BEDROCK			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	3-8 %	6 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	NASKEAG	POORLY	C

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)	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	DARK GRAYISH BROWN / OLIVE	Δ Δ Δ FREE WATER
10–20	REFUSAL (BEDROCK)			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	3-8 %	2 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	NASKEAG	POORLY	C

Observation Hole TB 100 ☐ Test Pit ■ Boring
_____" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	DARK BROWN / STRONG BROWN	FEW FAINT Δ Δ Δ FREE WATER
10–20	BEDROCK			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	3-8 %	22 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	NASKEAG	POORLY	C

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS #

6/30/09 — 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 101 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil

Depth (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC			
	BEDROCK			

	Soil Classification (Profile / Condition)	Slope	Limiting Factor	Ground Water / Restrictive Layer / Bedrock / Pit Depth
FOR WASTEWATER DISPOSAL →	N/A	8-20 %	2 "	■ Bedrock

	Soil Series Name:	Drainage Class:	Hydrologic Group:
FOR SOILS MAPPING →	ROCK OUTCROP/RICKER	WELL	D*

Observation Hole TB 102 ☐ Test Pit ■ Boring
" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth (inches)	Texture	Consistency	Color	Mottling
0	FINE SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
10	COARSE SANDY LOAM			COMMON DISTINCT FREE WATER
20	BEDROCK			

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

	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE/HOGBACK (VARIANT)	MODERATELY WELL	C/B

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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

Observation Hole TP 103 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC		BLACK	
	FINE SANDY LOAM	FRIABLE	STRONG BROWN	
10			OLIVE GRAY	
	BEDROCK			

	Soil Classification (Profile / Condition)	Slope	Limiting Factor	Ground Water / Restrictive Layer / Bedrock / Pit Depth
FOR WASTEWATER DISPOSAL →	N/A	20 %	12 "	■ Bedrock

	Soil Series Name:	Drainage Class:	Hydrologic Group:
FOR SOILS MAPPING →	HOGBACK	WELL	B

Observation Hole TP 104 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil

Depth (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC		DARK REDDISH BROWN	
		FRIABLE	GRAY (ALBIC)	
10	FINE SANDY LOAM		STRONG BROWN	
20	BEDROCK			

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

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

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS *

6/30 & 7/1/09 — 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 105 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC			
	FINE SANDY LOAM	FRIABLE	DARK YELLOWISH BROWN	
10	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

FOR SOILS MAPPING →

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)	Texture	Consistency	Color	Mottling
0			DARK BROWN	△△△
	FINE SANDY LOAM	FRIABLE	LIGHT YELLOWISH BROWN	FREE WATER (ABNORMAL JUNE 8.3" OF RAIN)
10				
			LIGHT OLIVE BROWN	COMMON DISTINCT
20	BEDROCK			
30				
40				
50				

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)	Texture	Consistency	Color	Mottling
0	ORGANIC		DARK REDDISH BROWN	
		FRIABLE		
10	FINE SANDY LOAM		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

FOR SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK (VARIANT)	WELL	B

(RICKER INCLUSION IN HOGBACK MAPPING UNIT

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

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0			GRAY (ALBIC)	
	FINE SANDY LOAM	FRIABLE		
10			STRONG BROWN	
	BEDROCK			
20				
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

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS #

7/1/09 — 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 109 ☐ 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	STRONG BROWN	
10–20				
20	BEDROCK			
30–50				

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

FOR WASTEWATER DISPOSAL →

FOR SOILS MAPPING → Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	C

Observation Hole TP 110 ■ Test Pit ☐ Boring
_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			BLACK	
0–10	FINE SANDY LOAM	FRIABLE	GRAY (ALBIC) / STRONG BROWN	
10–20				△△△ FREE WATER (ATYPICAL JUNE 8.3")
20	BEDROCK			
30–50				

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	8-20%	25"	☐ 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 111 ☐ Test Pit ■ Boring
_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				△△△ FREE WATER
0–10	FINE SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
10–20				
20	BEDROCK			
30–50				

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

FOR WASTEWATER DISPOSAL →

FOR SOILS MAPPING → Soil Series Name:	Drainage Class:	Hydrologic Group:
NASKEAG	POORLY	C

Observation Hole TP 112 ■ Test Pit ☐ Boring
_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0			GRAY	
0–10	FINE SANDY LOAM	FRIABLE	STRONG BROWN	
10–20				△△△ FREE WATER (ATYPICAL JUNE 8.3")
20	BEDROCK			
30–50				

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	8-20%	24"	☐ 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 #

7/1/09 — 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 1 13 ☐ 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			
40				
50				

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE	WELL	C

Observation Hole TP 1 14 ■ 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 OLIVE GRAY	
10	BEDROCK			
20				
30				
40	NOTE: FREE WATER ON BEDROCK ON DAY OF OBSERVATION DUE TO 8.33"+ OF RAIN IN JUNE			
50				

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	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 1 15 ■ 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			
50				

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	DIXFIELD/SKERRY (VARIANT)	MODERATELY WELL	C

Observation Hole TB 1 16 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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

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

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS #

7/1 & 9/14/09 — Date

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

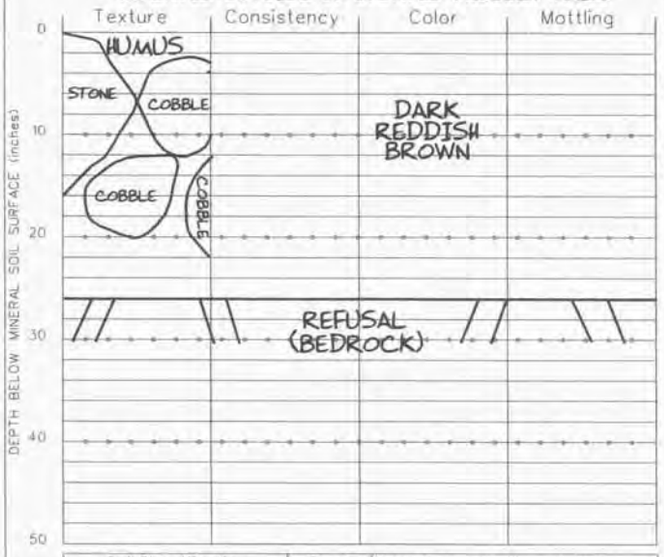
Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

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

Observation Hole TP 1 17 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

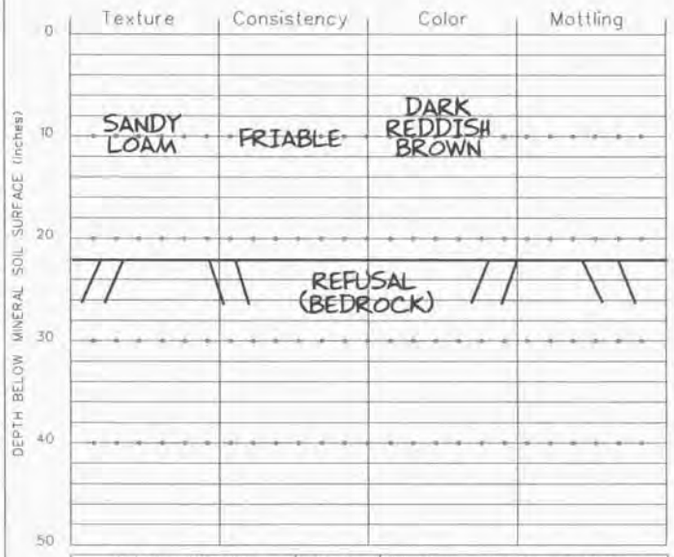


FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	8-20 %	26 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

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

Observation Hole TB 1 18 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil



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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE (INCLUSION)	WELL	C

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

Observation Hole TB 1 19 ☐ Test Pit ■ Boring

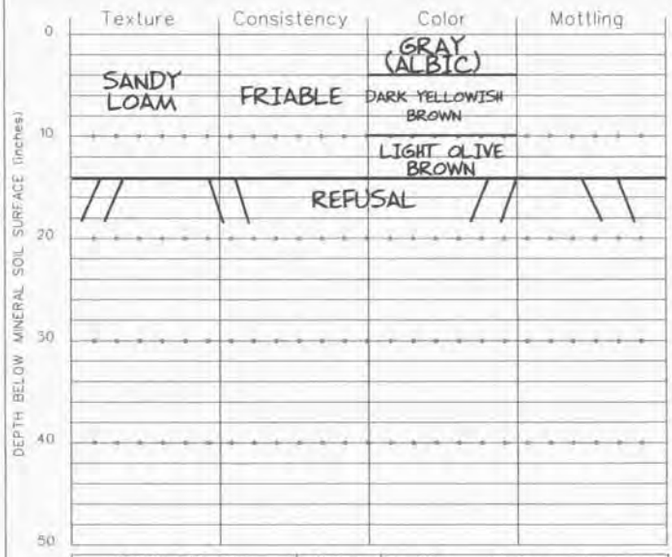
" Depth of Organic Horizon Above Mineral Soil

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	8-20 %	40 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE	WELL	C

Observation Hole TP 120 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil



FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	8-20 %	14 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	HOGBACK	WELL	B

Albert Frick — Site-Evaluator / Soil Scientist Signature

163/66 — SE/CSS #

9/14/09 — Date

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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 TB 121 ☐ 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	NO COLORS TAKEN ON BORING	
10	REFUSAL			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	8-20 %	11 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	ABRAM/HOGBACK	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
0–10	PEAT	LOOSE	NO COLORS TAKEN ON BORING	
10	BEDROCK			

NOTE: DEPTH OF ORGANIC LAYER VARIES OVER BEDROCK +/-7"

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

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	D*

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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
0–10	PEAT	LOOSE		
10	BEDROCK			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	8-20 %	3 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	ROCK OUTCROP (RICKER)	WELL	D*

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			

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

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

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS #

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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 125 ■ 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		
10	BEDROCK			

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	ABRAM (INCLUSION)	EXCESSIVELY	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	NO COLORS TAKEN ON BORING	
20	REFUSAL (BEDROCK)			

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE	WELL	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)	
10	LOAM	FRIABLE	DARK REDDISH BROWN	
20			LIGHT YELLOWISH BROWN	
30	REFUSAL (BEDROCK)			

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE	WELL	C

Observation Hole TB 128 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0–10	LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
20	REFUSAL (BEDROCK)			

	Soil Classification	Slope	Limiting Factor	
FOR WASTEWATER DISPOSAL	N/A (Profile / Condition)	8-20 %	21 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE	WELL	C

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — 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
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

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

Observation Hole TB 129 ☐ Test Pit ■ Boring
" Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	SPHAGNUM PEAT	LOOSE	NO COLORS TAKEN ON BORING	FREE WATER
10	SANDY LOAM	FRIABLE		
20	BEDROCK			
30				
40				
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	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)	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE	NO COLORS TAKEN ON BORING	
10	BEDROCK			
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	D *

Observation Hole TP 132 ■ 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 REDDISH BROWN	
20			LIGHT YELLOWISH BROWN	
30	REFUSAL (BEDROCK)			
40				
50				

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

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

* LISTED AS "A" PER NRCS, STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — 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
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		NO SOIL COLORS TAKEN IN BOULDERY PROFILE	
10–20	STONE			
20–30	BOULDER			
30–40	LIMIT OF EXCAVATION			
40–50				

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

FOR SOILS MAPPING	Soil Series Name	Drainage Class	Hydrologic Group
	MAHOOSUC	SOMEWHAT 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	NO COLORS TAKEN ON BORING	
10–20				
20–30		REFUSAL (BEDROCK)		
30–40				
40–50				

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	Ground Water / Restrictive Layer / Bedrock / Pit Depth
	N/A	20 %	28 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	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
0–10	SANDY LOAM	FRIABLE	DARK REDDISH BROWN	
10–20	GRAVELLY SANDY LOAM		LIGHT YELLOWISH BROWN	
20–30		FIRM	LIGHT OLIVE BROWN	FEW, FAINT
30–40		REFUSAL (LARGE STONES/BEDROCK)		
40–50				

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	Ground Water / Restrictive Layer / Bedrock / Pit Depth
	N/A	20 %	22 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name	Drainage Class	Hydrologic Group
	DIXFIELD	MODERATELY 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	NO COLORS TAKEN ON BORING	
10–20				FEW, FAINT
20–30		FIRM		COMMON, DISTINCT
30–40		REFUSAL (LARGE BOULDER)		
40–50				

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	Ground Water / Restrictive Layer / Bedrock / Pit Depth
	N/A	20 %	29 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name	Drainage Class	Hydrologic Group
	DIXFIELD	MODERATELY WELL	C

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — 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
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)	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	DARK REDDISH BROWN	
10–20			LIGHT OLIVE BROWN	
20–30	GRAVELLY SANDY LOAM	FIRM	OLIVE	FEW FAINT
30–40				
40–50	GRAVELLY LOAMY SAND	(LIMIT OF EXCAVATION @ 80")		

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

Observation Hole TP 138 ■ 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	
10–20	COBBLY GRAVELLY LOAMY SAND	FIRM	LIGHT OLIVE BROWN	FEW FAINT
20–30				
30–40				COMMON DISTINCT
40–50				

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

Soil Series Name:	Drainage Class:	Hydrologic Group:
SKERRY (INCLUSION/VARIANT)	MODERATELY WELL TO SOMEWHAT POORLY	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)	Texture	Consistency	Color	Mottling
0–10	COBBLY LOAMY SAND	FRIABLE	LIGHT YELLOW BROWN	
10–20				
20–30				
30–40				
40–50	LIMIT OF EXCAVATION			

FOR WASTEWATER DISPOSAL →

Soil Classification (Profile / Condition)	Slope	Limiting Factor	Ground Water / Restrictive Layer / Bedrock / Pit Depth
N/A	8-20 %	+41 "	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING →

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

Observation Hole TP 140 ■ 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	
10–20			OLIVE BROWN	FEW, FAINT
20–30	GRAVELLY SANDY LOAM	FIRM	OLIVE	COMMON, DISTINCT
30–40				
40–50	LIMIT OF EXCAVATION			

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

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

Depth	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
10–20				FEW, FAINT
20		REFUSAL IN BASAL TILL		

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

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

Observation Hole TB 142 ☐ Test Pit ■ Boring
_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	SOIL COLORS NOT RECORDED IN ALL HORIZONS	
10–20	GRAVELLY SANDY LOAM			FEW, FAINT
40		REFUSAL IN LARGE ROCK OR BEDROCK		

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	DIXFIELD (VARIANT)	MODERATELY WELL	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)

Depth	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	DARK BROWN	
10–20			LIGHT YELLOW BROWN	FEW, FAINT
20			OLIVE BROWN	
30		REFUSAL ON LARGE BOULDER OR BASIL TILL		

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

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

Observation Hole TP 144 ■ Test Pit ☐ Boring
_____" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Depth	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	DARK BROWN	
10–20			DARK YELLOW BROWN	FEW, FAINT
20–30		FIRM	OLIVE	COMMON, DISTINCT
30		REFUSAL IN BASIL TILL		

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	DIXFIELD	MODERATELY WELL	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 145 ■ 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; DARK OLIVE BROWN	
10–20		FIRM	OLIVE BROWN	COMMON, DISTINCT
20–50		VERY FIRM (REFUSAL)		

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

FOR WASTEWATER DISPOSAL →

FOR SOILS MAPPING → Soil Series Name:	Drainage Class:	Hydrologic Group:
COLONEL	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
0–10	COBBLE, COBBLE, COBBLE	LOOSE	REDDISH BROWN	FEW, FAINT.
10–20	SANDY LOAM	FRIABLE	LIGHT OLIVE BROWN	
20–30		FIRM	OLIVE	COMMON, DISTINCT
30–40		LIMIT OF EXCAVATION		

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

FOR WASTEWATER DISPOSAL →

FOR SOILS MAPPING → Soil Series Name:	Drainage Class:	Hydrologic Group:
COLONEL (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
0–10	LOAM	FRIABLE	LIGHT GRAY (ALBIC); DARK YELLOW BROWN	
10–20			LIGHT YELLOW BROWN; OLIVE BROWN	
20–30	BEDROCK			

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

FOR WASTEWATER DISPOSAL →

FOR SOILS 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
0–10	LOAM	FRIABLE	DARK REDDISH BROWN	
10–20	BEDROCK			

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

FOR SOILS MAPPING → Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK	WELL	B

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	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	
10			DARK REDDISH BROWN	
20			LIGHT OLIVE BROWN	FEW, FAINT
30	REFUSAL ON LARGE BOULDER			
40				
50				

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	DIXFIELD	MODERATELY WELL	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				COMMON, DISTINCT
20		FIRM	LIGHT OLIVE BROWN	
		LIMIT OF EXCAVATION		
30				
40				
50				

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	COLONEL (VARIANT)	SOMEWHAT POORLY	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		FRIABLE		
	LOAMY SAND		LIGHT YELLOW BROWN	
20				FEW, FAINT
	COBBLY SANDY LOAM AND LOAMY SAND	FIRM	PALE OLIVE	COMMON, DISTINCT
30				
40				
50		LIMIT OF EXCAVATION @72"		

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	Ground Water / Restrictive Layer / Bedrock / Pit Depth
	N/A	%	18 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	DIXFIELD/SKERRY	MODERATELY WELL	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		DARK BROWN	
10		FRIABLE	LIGHT OLIVE BROWN	
	LOAMY SAND			FEW, FAINT
20				COMMON, DISTINCT
	COBBLY SANDY LOAM AND LOAMY SAND	FIRM	OLIVE BROWN	
30				
40				
50		LIMIT OF EXCAVATION		

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	SKERRY /DIXFIELD (INCLUSION)	MODERATELY WELL	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
0–10	SANDY LOAM	FRIABLE	GRAY (ALBIC)	
10–20	COBBLY LOAMY SAND AND SANDY LOAM	FIRM	STRONG BROWN / OLIVE	FEW, FAINT / COMMON DISTINCT
20–50				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 SOILS MAPPING

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

Observation Hole TB 154 ☐ 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	NO COLORS TAKEN ON BORING	FEW, FAINT.
10–20	COBBLY SANDY LOAM AND LOAMY SAND	FIRM		COMMON DISTINCT
20–50				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
0–10	SANDY LOAM	FRIABLE	REDDISH GRAY (ALBIC) / OLIVE GRAY	FEW, FAINT / COMMON, DISTINCT
10–20		REFUSAL IN LARGE BOULDER		

FOR WASTEWATER DISPOSAL

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

FOR SOILS MAPPING

Soil Series Name:	Drainage Class:	Hydrologic Group:
COLONEL (VARIANT)	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
0–10	SANDY LOAM	FRIABLE	DARK BROWN	FEW, FAINT
10–20	COBBLY LOAMY SAND TO SANDY LOAM	FIRM	OLIVE	COMMON, DISTINCT

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:
PILLSBURY (VARIANT) INCLUSION	POORLY	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 157 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0–10	LOAM	FRIABLE	GRAY (ALBIC) / DARK YELLOWISH BROWN	
10	BEDROCK			

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	HOGBACK	WELL	B

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

Observation Hole TB 158 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0–10	LOAM	FRIABLE	DARK YELLOWISH BROWN	
10	BEDROCK			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	2 N/A AII	20 %	12 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	HOGBACK	WELL	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

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0–10	LOAM	FRIABLE	DARK YELLOWISH BROWN	
10–30	BEDROCK			

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE	WELL	C

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

Observation Hole TP 160 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0–10	HUMUS LOAM	FRIABLE	DARK BROWN	
10	BEDROCK			
10–50	NOTE: RICKER LIKE SOILS WITH DEEPER ORGANIC IN AREA			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	20 %	3-6"	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	ABRAM (INCLUSION)	WELL	D

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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 TB 161 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–10	LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
10–30	BEDROCK			

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE	WELL	C

Observation Hole TP 162 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–10	ORGANIC LOAM	FRIABLE	DARK BROWN	
10–50	BEDROCK			

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	HOGBACK	WELL/EXCESSIVELY	B

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

Observation Hole TB 163 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–10	ORGANIC	LOOSE		
10–50	BEDROCK			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	20 %	3 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	ROCK OUTCROP/ABRAM RICKER	WELL	D

Observation Hole TB 164 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–10	LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
10–50	BEDROCK			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	20 %	34 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE	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

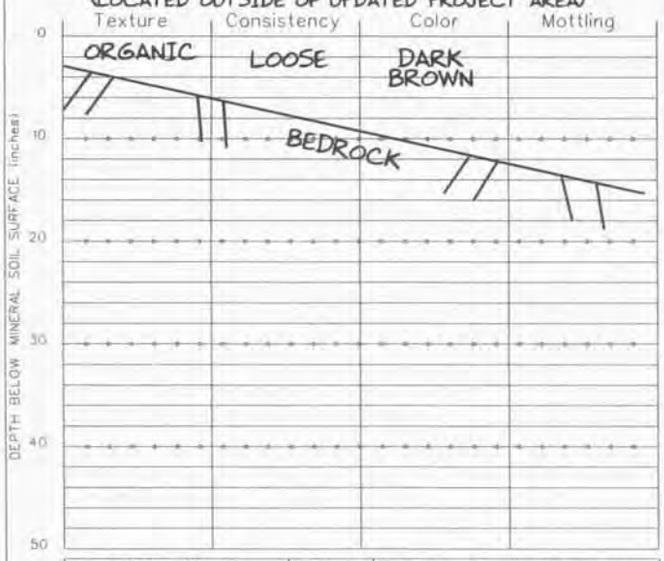
Town, City, Plantation	Street, Road Subdivision	Owner's Name
HIGHLAND PLANTATION	HIGHLAND WIND PROJECT	HIGHLAND WIND, LLC

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

Observation Hole TP 165 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)



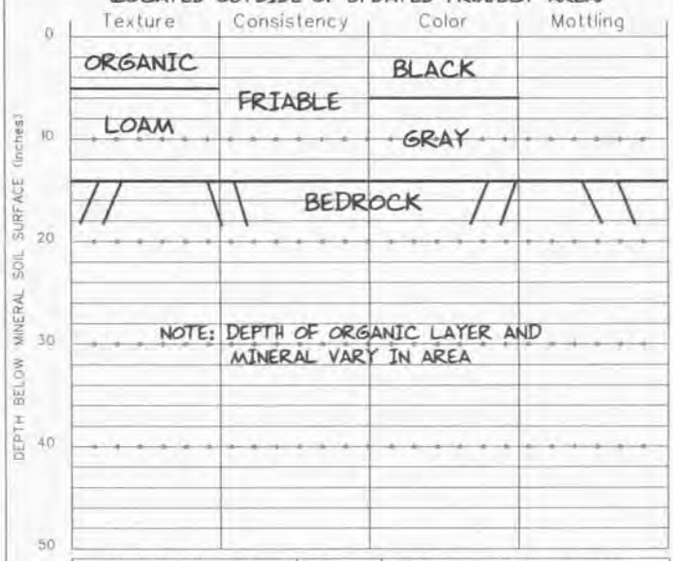
FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	20 %	3-15"	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RICKER	WELL	D *

Observation Hole TP 166 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)



FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	20 %	14 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

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

* LISTED AS "A" PER NRCS, STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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

Observation Hole TB 167 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	8-20 %	23 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RICKER (VARIANT)	WELL	D *

Observation Hole TP 168 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	ABRAM	WELL	D

* LISTED AS "A" PER NRCS, STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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 169 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC LOAM	LOOSE	REDDISH BROWN	
	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

FOR SOILS MAPPING →

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

Observation Hole TP 170 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC LOAM	LOOSE	DARK REDDISH BROWN GRAY	
	BEDROCK			
10				
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/ABRAM	WELL	D

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

Observation Hole TB 171 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC			
	BEDROCK			
10				
20				
30				
40				
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
ROCK OUTCROP/ABRAM	WELL	D

Observation Hole TB 172 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
	BEDROCK			
10				
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 — 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 173 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC FINE SANDY LOAM	FRIABLE	DARK REDDISH BROWN / GRAY	
10	BEDROCK			
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 SOILS MAPPING →

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

Observation Hole TB 174 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
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

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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

FOR SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	D *

Observation Hole TB 176 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0				
10	LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
20	BEDROCK			
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

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Albert Frick — Site Evaluator / Soil Scientist Signature

163/166 — SE/CSS *

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 TP 177 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–10	LOAM	FRIABLE	DARK REDDISH BROWN	
10–20	BEDROCK			

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

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

Observation Hole TB 178 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–10	LOAM	FRIABLE	DARK REDDISH BROWN	
10–20	BEDROCK			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	20 %	22 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE	WELL	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

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–10	FINE SANDY LOAM	FRIABLE	DARK YELLOWISH BROWN	
10–30	BEDROCK			

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE	WELL	C

Observation Hole TP 180 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–10	ORGANIC; BOULDER; BOULDER	LOOSE		
10–50	BOULDER; LIMIT OF EXCAVATION			

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

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

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 TB 181 ☐ Test Pit ■ Boring

_____" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0–10	FINE SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
10–30				
30	BEDROCK			
30–50				

FOR WASTEWATER DISPOSAL →	Soil Classification: N/A (Profile / Condition)	Slope: 20 %	Limiting Factor: 31 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth
FOR SOILS MAPPING →	Soil Series Name: RAWSONVILLE	Drainage Class: WELL	Hydrologic Group: C	

Observation Hole TB 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	NO COLORS TAKEN ON BORING	
10–20				FEW FAINT
20	REFUSAL (LARGE STONES/BEDROCK)			
20–50				

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: RAWSONVILLE (VARIANT)	Drainage Class: MODERATELY WELL	Hydrologic Group: 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
0–10	LOAM	FRIABLE	GRAY (ALBIC)	
10–20			DARK YELLOWISH BROWN	
20–30			LIGHT YELLOWISH BROWN	
30	BEDROCK			
30–50				

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	

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	NO COLORS TAKEN ON BORING	
10–20				
20	BEDROCK			
20–50				

FOR WASTEWATER DISPOSAL →	Soil Classification: N/A (Profile / Condition)	Slope: 8-20 %	Limiting Factor: 21 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth
FOR SOILS MAPPING →	Soil Series Name: RAWSONVILLE	Drainage Class: WELL	Hydrologic Group: C	

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 TB 185 ☐ Test Pit ■ Boring
" Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–10	LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
10–20	BEDROCK			
20–50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

Observation Hole TP 186 ■ 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 BROWN	
10–20	BEDROCK			
20–50				

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	WELL/EXCESSIVELY	B

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)	Texture	Consistency	Color	Mottling
0–10	LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
10–20	BEDROCK			
20–50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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)	Texture	Consistency	Color	Mottling
0–10	ORGANIC	LOOSE	DARK REDDISH BROWN	
10–20	BEDROCK			
20–50				

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:
RICKER	WELL	D*

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Albert Frick
Site Evaluator / Soil Scientist Signature

163/66
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

Texture	Consistency	Color	Mottling
BOULDER, BOULDER, BOULDER, BOULDER, BOULDER	LOOSE	NO COLORS TAKEN ON BOULDERY PROFILE	
BEDROCK			

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

FOR WASTEWATER DISPOSAL	Soil Classification	Slope	Limiting Factor	
	N/A (Profile / Condition)	20 %	40 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth
FOR SOILS MAPPING	Soil Series Name: MAHOOSUC	Drainage Class: SOMEWHAT EXCESSIVELY	Hydrologic Group: A	

Observation Hole TB 190 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
BEDROCK			

NOTE: TB IS ON CLIFF-LIKE LANDFORM

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

FOR WASTEWATER DISPOSAL	Soil Classification	Slope	Limiting Factor	
	N/A (Profile / Condition)	20 %	30 "	☐ 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 191 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
		DARK BROWN	
LOAM	FRIABLE	YELLOWISH BROWN	
BEDROCK			

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

FOR WASTEWATER DISPOSAL	Soil Classification	Slope	Limiting Factor	
	N/A (Profile / Condition)	20 %	26 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth
FOR SOILS MAPPING	Soil Series Name: RAWSONVILLE	Drainage Class: WELL	Hydrologic Group: C	

Observation Hole TP 192 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
ORGANIC			
BEDROCK			

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

FOR WASTEWATER DISPOSAL	Soil Classification	Slope	Limiting Factor	
	N/A (Profile / Condition)	20 %	3 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth
FOR SOILS MAPPING	Soil Series Name: RICKER	Drainage Class: WELL	Hydrologic Group: D*	

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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 (Profile / Condition)	Slope	Limiting Factor	
N/A	20 %	7 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER	WELL	D*

* LISTED AS "A" PER NRCS, STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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

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	NO COLORS TAKEN ON BORING	
10	BEDROCK			
20				
30				
40				
50				

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	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	NO COLORS TAKEN ON BORING	
20				
30				
40	LIMIT OF EXCAVATION			
50	NOTE: INCLUSION IN SHALLOW TO BEDROCK LANDFORM			

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

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

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)	
20			YELLOWISH BROWN	
30	BEDROCK			
40				
50				

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	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

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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)	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE		
	BEDROCK			
10				
20				
30				
40	NOTE: DEPTH TO ORGANIC LAYER ON BEDROCK VARIES			
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

Soil Series Name:	Drainage Class:	Hydrologic Group:
ROCK OUTCROP/RICKER	WELL	D

Observation Hole TB 198 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0			GRAY	
10	GRAVELLY LOAM	FRIABLE	YELLOWISH BROWN	
20			LIGHT BROWN	
30	BEDROCK			
40				
50				

Soil Classification	Slope	Limiting Factor	
N/A (Profile / Condition)	8-20%	31 "	☐ 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 199 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE		
	BEDROCK			
10				
20				
30	NOTE: DEPTH OF ORGANIC LAYER ON BEDROCK VARIES WITH MINERAL LAYER			
40				
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

Observation Hole TP 200 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	ORGANIC	LOOSE	BLACK	
10	LOAM	FRIABLE	BLACK	
20				COMMON DISTINCT △△△
30	BEDROCK			FREE WATER
40				
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 (VARIANT) OXYAQUIC	POORLY	C

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS #

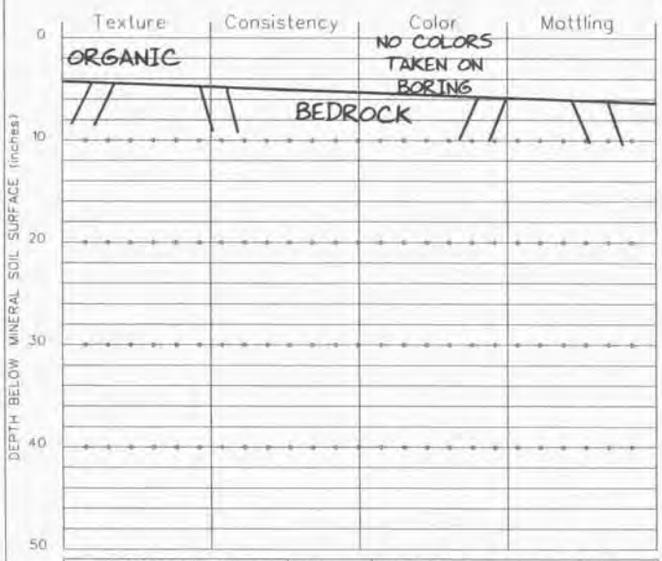
9/23/09 — Date

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)

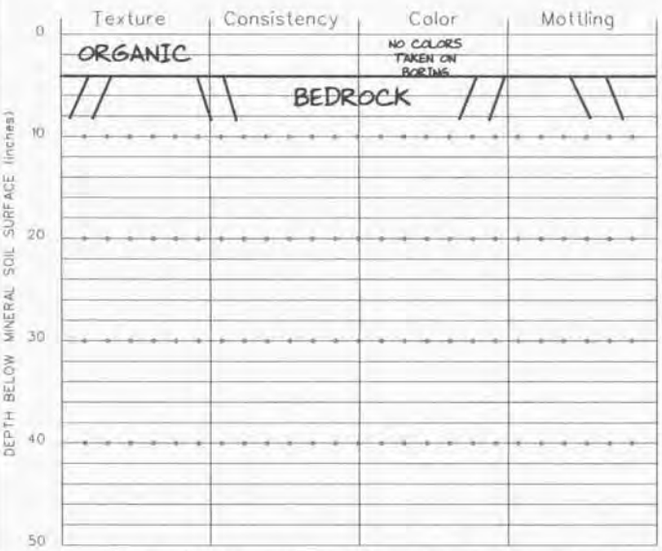
Observation Hole TB 201 ☐ Test Pit ■ Boring
_____" Depth of Organic Horizon Above Mineral Soil



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/ROCK OUTCROP	Drainage Class: WELL	Hydrologic Group: D*	

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Observation Hole TB 202 ☐ Test Pit ■ Boring
_____" Depth of Organic Horizon Above Mineral Soil

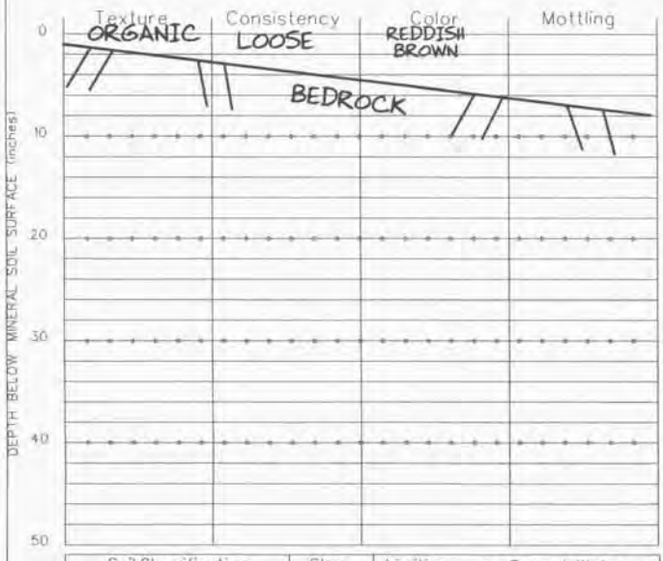


FOR WASTEWATER DISPOSAL →	Soil Classification: N/A (Profile / Condition)	Slope: 8-20 %	Limiting Factor: 4 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth
FOR SOILS MAPPING →	Soil Series Name: RICKER	Drainage Class: WELL	Hydrologic Group: D*	

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

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

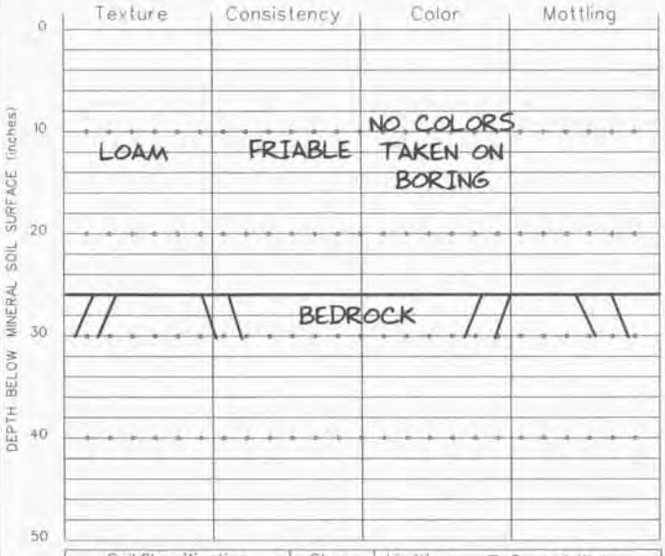
Observation Hole TP 203 ■ Test Pit ☐ Boring
_____" Depth of Organic Horizon Above Mineral Soil



FOR WASTEWATER DISPOSAL →	Soil Classification: N/A (Profile / Condition)	Slope: 20 %	Limiting Factor: 1-8"	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth
FOR SOILS MAPPING →	Soil Series Name: RICKER/ROCK OUTCROP	Drainage Class: WELL	Hydrologic Group: D*	

* LISTED AS "A" PER NRCS; STATE SOIL SCIENTIST, D. ROCQUE AND ALBERT FRICK BELIEVE IT PERFORMS LIKE ABRAM "D"

Observation Hole TB 204 ☐ Test Pit ■ Boring
_____" Depth of Organic Horizon Above Mineral Soil



FOR WASTEWATER DISPOSAL →	Soil Classification: N/A (Profile / Condition)	Slope: 8-20 %	Limiting Factor: 26 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth
FOR SOILS MAPPING →	Soil Series Name: RAWSONVILLE	Drainage Class: WELL	Hydrologic Group: C	

Albert Frick — Site Evaluator / Soil Scientist Signature

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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)	Texture	Consistency	Color	Mottling
0	ORGANIC		BLACK	
			GRAY	
10	LOAM	FRIABLE	LIGHT OLIVE BROWN	
20				
30	BEDROCK			
40				
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

Observation Hole TB 206 ☐ Test Pit ■ Boring
_____" Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0			GRAY	
			STRONG BROWN	
10	GRAVELLY SANDY LOAM	FRIABLE		
			YELLOWISH BROWN	
20				
30	REFUSAL (LARGE STONES)			
40				
50				

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)	Texture	Consistency	Color	Mottling
0			STRONG BROWN	
10	GRAVELLY SANDY LOAM	FRIABLE		
			YELLOWISH BROWN	
20	REFUSAL (LARGE STONES)			
30				
40				
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

Observation Hole TB 208 ☐ Test Pit ■ Boring
_____" Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0			GRAY (ALBIC)	
	SANDY LOAM		STRONG BROWN	
10		FRIABLE		
			DARK YELLOWISH BROWN	
20	GRAVELLY SANDY LOAM			FEW, FAINT
30	REFUSAL (LARGE STONES)			
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

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
LOAM	FRIABLE	DARK BROWN	OXIDIZED RHIZOSPHERES
		BLACK	
		DARK BROWN	FEW FAINT
GRAVELLY LOAMY SAND	FIRM	OLIVE GRAY	COMMON DISTINCT

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	PILLSBURY/COLONEL (VARIANT) OXYAQUIC	POORLY	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
SANDY LOAM WITH WOOD DEBRIS	FRIABLE	DARK BROWN	
		LIGHT OLIVE BROWN	FEW, FAINT
NOTE: PORTION OF SITE PREVIOUSLY USED AS STAGING AREA FOR TIMBER HARVESTING		OLIVE BROWN	COMMON DISTINCT
	LIMIT OF EXCAVATION		

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

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATLEY WELL	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
SANDY LOAM	FRIABLE	VERY DARK GRAY (10YR 3/1)	
			OXIDIZED RHIZOSPHERES
REFUSAL ON LARGE BOULDER			
NOTE: PORTION OF SITE PREVIOUSLY USED AS STAGING AREA FOR TIMBER HARVESTING			
AREA SUBJECTED TO DISTURBANCE			

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	ALTERED AREA	SOMEWHAT POORLY TO POORLY	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
SANDY LOAM	FRIABLE	VERY DARK GRAY (10YR 3/1)	OXIDIZED RHIZOSPHERES
			△△△ FREE WATER
COBBLY SANDY LOAM			
REFUSAL ON LARGE BOULDER			

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

Soil Series Name:	Drainage Class:	Hydrologic Group:
PILLSBURY	POORLY	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
0–10	SANDY LOAM	FRIABLE	DARK BROWN	
10–20			STRONG BROWN	FEW, FAINT
20–50	REFUSAL ON LARGE STONE			

Soil Classification	Slope	Limiting Factor	
N/A (Profile / Condition)	8-20 %	18 "	■ 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 TP 214 ■ 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	
10–30		FIRM	STRONG BROWN / LIGHT YELLOW BROWN	FEW, FAINT
30–50	REFUSAL ON LARGE BOULDER			

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

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
0–10	COBBLY SANDY LOAM	FRIABLE	DARK BROWN	
10–20		FIRM	STRONG BROWN	FEW, FAINT
20–50	REFUSAL ON LARGE BOULDER			

Soil Classification	Slope	Limiting Factor	
3 C (Profile / Condition)	8-20 %	15 "	■ 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 TP 216 ■ 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 GRAYISH BROWN	
10–20	COBBLY SANDY LOAM		DARK BROWN 10 YR 3/3	FEW, FAINT
20–30	SANDY LOAM	FIRM	OLIVE BROWN 2.5 Y 4/3	COMMON, DISTINCT
30–50	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

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS #

10/13/09 — Date

ALBERT FRICK ASSOCIATES – 98A 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)

	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	DARK BROWN; STRONG BROWN	
10–20	COBBLY SANDY LOAM		LIGHT YELLOW BROWN	FEW, FAINT
20–30		FIRM	OLIVE BROWN 2.5 Y 4/3	COMMON, DISTINCT
30–40				
40–50	LIMIT OF EXCAVATION @ 80"			

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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)

	Texture	Consistency	Color	Mottling
0–10	LOAM	FRIABLE	DARK BROWN	
10–20	SANDY LOAM		DARK YELLOW BROWN	
20–30		FIRM	OLIVE BROWN	FEW, FAINT; COMMON, DISTINCT
30–40		REFUSAL ON LARGE BOULDER		
40–50				

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)

	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	DARK GRAY	COMMON, DISTINCT
10–20		FIRM	OLIVE GRAY	△△△ FREE WATER
20–30	LIMIT OF EXCAVATION			
30–40				
40–50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

Observation Hole TP 220 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	DARK GRAY (ALBIC); DARK YELLOW BROWN	
10–20		FIRM	LIGHT OLIVE BROWN	FEW, FAINT
20–30	LIMIT OF EXCAVATION			
30–40				
40–50				

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

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)

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			

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

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

Observation Hole TP 222 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)

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

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

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

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

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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

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

Observation Hole TP 224 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)

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

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

Soil Series Name:	Drainage Class:	Hydrologic Group:
DIXFIELD	MODERATELY WELL	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 TB 225 ☐ Test Pit ■ Boring
" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)

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

Soil Classification	Slope	Limiting Factor	Ground Water / Restrictive Layer / Bedrock / Pit Depth
N/A (Profile / Condition)	20 %	18 "	■ 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 226 ☐ Test Pit ■ Boring
" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)

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	Ground Water / Restrictive Layer / Bedrock / Pit Depth
N/A (Profile / Condition)	25 %	18 "	■ 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 227 ☐ Test Pit ■ Boring
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	FEW, FAINT
	FIRM		COMMON, DISTINCT
LIMIT OF EXCAVATION			

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

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

Observation Hole TP 228 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

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	Ground Water / Restrictive Layer / Bedrock / Pit Depth
N/A (Profile / Condition)	8-20 %	13 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Soil Series Name:	Drainage Class:	Hydrologic Group:
COLONEL (VARIANT)	SOMEWHAT POORLY	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 229 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	LOAM		OLIVE BROWN 2.5 YR 4/3	
10	SANDY LOAM	FRIABLE	LIGHT OLIVE BROWN 2.5 YR 5/4	FEW FAINT
20	FINE SAND			COMMON, DISTINCT
30	GRAVEL			
40				
50				

FOR WASTEWATER DISPOSAL →

Soil Classification	Slope	Limiting Factor	Ground Water / Restrictive Layer / Bedrock / Pit Depth
N/A (Profile / Condition)	0-3 %	14 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

FOR SOILS MAPPING →

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

Observation Hole TP 230 ■ 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 BROWN 10YR 3/2	
10	GRAVELLY SANDY LOAM	FRIABLE	DARK GRAYISH BROWN	FEW FAINT COMMON, DISTINCT
20		FIRM	DARK GRAYISH BROWN 10YR 4/2	
30				
40				
50				

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

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

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)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		VERY DARK BROWN 10YR 3/1	
			LIGHT GRAY 10YR 7/1	
10	COBBLY SANDY LOAM	FRIABLE	DARK REDDISH BROWN 5Y 3/4	
20				
		FIRM	OLIVE BROWN 2.5 Y 4/3	
30				
40		LIMIT OF EXCAVATION		
50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

Soil Series Name	Drainage Class	Hydrologic Group
MARLOW	WELL	C

Observation Hole TP 232 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
10		FRIABLE	DARK YELLOW BROWN	
20		FIRM		COMMON, DISTINCT
30				
40				
50				

Soil Classification	Slope	Limiting Factor	Ground Water / Restrictive Layer / Bedrock / Pit Depth
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 #

10/6/09 — 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 233 ■ Test Pit ☐ Boring
" Depth of Organic Horizon Above Mineral Soil
(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	
		DARK YELLOWISH BROWN	
GRAVELLY LOAMY SAND	FIRM		

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

FOR WASTEWATER DISPOSAL →

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
ORGANIC		BLACK	
SANDY LOAM	FRIABLE	GRAY 10YR6/1	
		DARK GRAYISH BROWN 10YR3/4	
GRAVELLY COBBLY SANDY LOAM	FIRM		

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

FOR WASTEWATER DISPOSAL →

FOR SOILS MAPPING → 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
SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
BEDROCK			

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

FOR WASTEWATER DISPOSAL →

FOR SOILS MAPPING → 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
SANDY LOAM	FRIABLE	STRONG BROWN	
		LIGHT YELLOWISH BROWN	FEW FAINT
BEDROCK			

Soil Classification	Slope	Limiting Factor	Ground Water / Restrictive Layer / Bedrock / Pit Depth
Profile: N/A Condition:	8-20 %	33 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR WASTEWATER DISPOSAL →

FOR SOILS MAPPING → Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE (VARIANT)	MODERATELY 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	NO COLORS TAKEN ON BORING	
10–30	BEDROCK			
30–50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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	NO COLORS TAKEN ON BORING	
10–30	REFUSAL (BEDROCK)			
30–50				

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	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	NO COLORS TAKEN ON BORING	
10–30	REFUSAL (BEDROCK)			
30–50				

FOR WASTEWATER DISPOSAL →

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

FOR SOILS MAPPING →

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
0–10	FINE SANDY LOAM / SANDY LOAM	FRIABLE	BLACK / DARK GRAY	
10–30	BEDROCK			
30–50				

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

Soil Series Name:	Drainage Class:	Hydrologic Group:
ABRAM	EXCESSIVELY	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 TB 241 ☐ 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	NO COLORS TAKEN ON BORING	
30				FEW, FAINT
40		REFUSAL		

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	Limiting
	N/A	20 %	36"	☐ 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 242 ☐ 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	NO COLORS TAKEN ON BORING	
20				FEW, FAINT
30		REFUSAL (BEDROCK)		

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

FOR SOILS MAPPING	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 243 ■ Test Pit ☐ Boring
_____" Depth of Organic Horizon Above Mineral Soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–10	LOAM	FRIABLE	VARIABLE DARK GRAYISH BROWN	
10–20	SANDY LOAM		GRAYISH BROWN	FEW FAINT
20		REFUSAL (BEDROCK)		

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

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

Observation Hole TP 244 ■ 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 BROWN	
10–20	SANDY LOAM		LIGHT OLIVE BROWN	
20		BEDROCK		

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

FOR SOILS MAPPING	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

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

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
REFUSAL (BEDROCK)			

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

FOR WASTEWATER DISPOSAL

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	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

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

Observation Hole TB 246 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	
		STRONG BROWN	
		DARK YELLOWISH BROWN	
REFUSAL (BEDROCK)			

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

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	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

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
BEDROCK			

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

FOR WASTEWATER DISPOSAL

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

FOR SOILS MAPPING

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

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

Observation Hole TP 248 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

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

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

Soil Classification (Profile / Condition)	Slope	Limiting Factor	
N/A	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

(LOCATED OUTSIDE OF UPDATED PROJECT AREA)

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
20	BEDROCK			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	20 %	22 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	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	
10–20	BEDROCK			

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	ROCK OUTCROP (INCLUSION)	WELL	D

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	NO COLORS TAKEN ON BORING	
20	REFUSAL (BEDROCK)			

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

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	HOBACK/RAWSONVILLE	WELL	B/C

Observation Hole TB 252 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0–10	SANDY LOAM	FRIABLE	NO COLORS TAKEN ON BORING	
10	REFUSAL (LARGE STONES/BEDROCK)			

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

FOR SOILS MAPPING	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

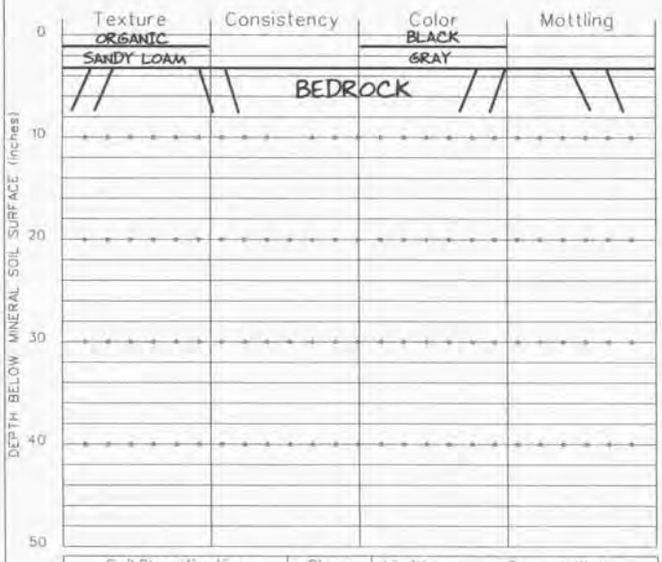
ALBERT FRICK ASSOCIATES – 95A COUNTY ROAD GORHAM, MAINE 04038 – (207) 839-5563

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 253 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil



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

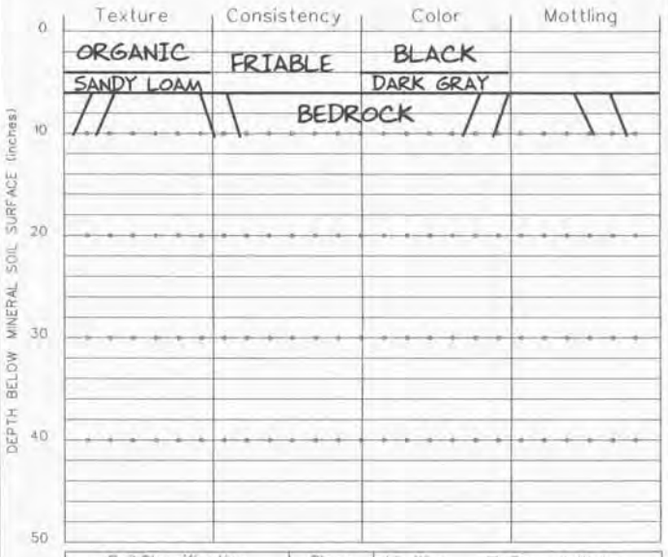
FOR WASTEWATER DISPOSAL →

Soil Series Name:	Drainage Class:	Hydrologic Group:
ABRAM/ROCK OUTCROP	EXCESSIVELY	D

FOR SOILS MAPPING →

Observation Hole TP 254 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil



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

FOR WASTEWATER DISPOSAL →

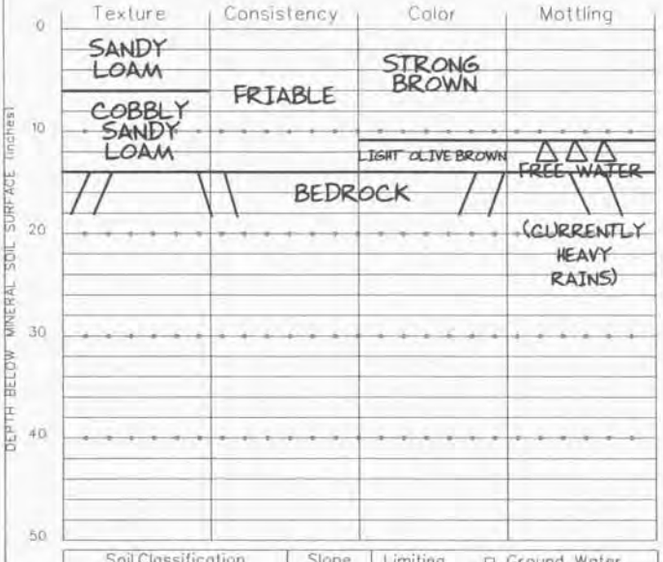
Soil Series Name:	Drainage Class:	Hydrologic Group:
RICKER/ABRAM/ROCK OUTCROP	EXCESSIVELY	D

FOR SOILS MAPPING →

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

Observation Hole TP 255 ■ Test Pit ☐ Boring

" Depth of Organic Horizon Above Mineral Soil



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

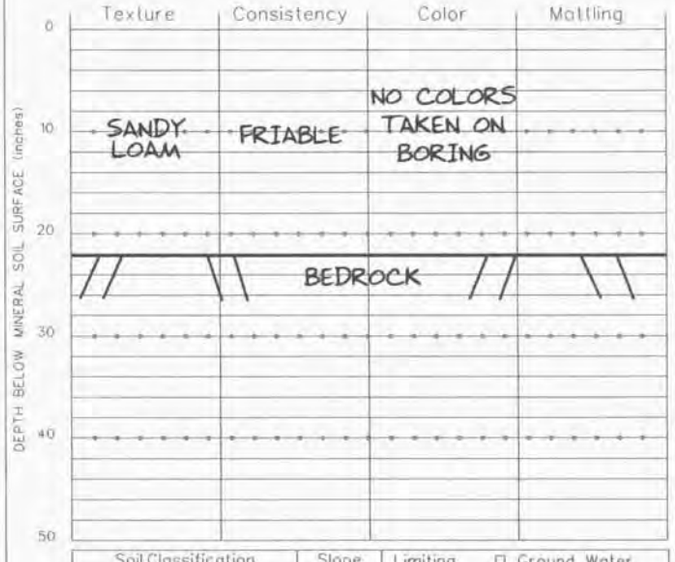
FOR WASTEWATER DISPOSAL →

Soil Series Name:	Drainage Class:	Hydrologic Group:
HOGBACK (VARIANT)	WELL	B

FOR SOILS MAPPING →

Observation Hole TB 256 ☐ Test Pit ■ Boring

" Depth of Organic Horizon Above Mineral Soil



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

Soil Series Name:	Drainage Class:	Hydrologic Group:
RAWSONVILLE	WELL	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 TP 257 ■ 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; DARK YELLOWISH BROWN	
10–20			GRAYISH BROWN	
20	BEDROCK			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
	N/A	20 %	24 "	☐ Ground Water ☐ Restrictive Layer ■ Bedrock ☐ Pit Depth

FOR SOILS MAPPING	Soil Series Name:	Drainage Class:	Hydrologic Group:
	RAWSONVILLE	WELL	C

Observation Hole TP 258 ■ 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	VERY DARK BROWN (10YR 3/2); DARK BROWN (10YR 3/3)	FEW, FAINT
10–20	COBBLY SANDY LOAM	FIRM	DARK OLIVE GRAY (5Y 3/2)	△△△ FREE WATER
20	LIMIT OF EXCAVATION			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
		%	8 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

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

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

Observation Hole TP 259 ■ 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 (10 YR 3/3); DARK BROWN (7.5YR 3/2)	FEW, FAINT
10–20	COBBLY SANDY LOAM	FIRM	OLIVE BROWN (2.5YR 4/4)	COMMON, DISTINCT
20	LIMIT OF EXCAVATION			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
		%	12 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

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

Observation Hole TB 260 ☐ 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	VERY DARK BROWN (10 YR 3/2); OLIVE BROWN	FEW, FAINT COMMON, DISTINCT
10–20		FIRM	DARK OLIVE BROWN	△△△ FREE WATER
20	LIMIT OF EXCAVATION			

FOR WASTEWATER DISPOSAL	Soil Classification (Profile / Condition)	Slope	Limiting Factor	
		%	10 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

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

Albert Frick — Site Evaluator / Soil Scientist Signature

163/66 — SE/CSS #

10/7/09 & 12-10-10 — Date

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

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: ________ ☐ Test Pit ☐ Boring

________" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Depth	Texture	Consistency	Color	Mottling
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
12				
14				
16				
18				
20				
30				
40				
50				
60				

▫ hydric ▫ non-hydric	Slope % ______	Limiting factor ______	▫ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: ______ Drainage Class ______ Hydrologic Group

L.S.E. Soil Classification: ______ Profile ______ Drainage Class ______ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: ________ ☐ Test Pit ☐ Boring

________" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Depth	Texture	Consistency	Color	Mottling
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
12				
14				
16				
18				
20				
30				
40				
50				
60				

▫ hydric ▫ non-hydric	Slope % ______	Limiting factor ______	▫ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: ______ Drainage Class ______ Hydrologic Group

L.S.E. Soil Classification: ______ Profile ______ Drainage Class ______ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: ________ ☐ Test Pit ☐ Boring

________" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Depth	Texture	Consistency	Color	Mottling
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
12				
14				
16				
18				
20				
30				
40				
50				
60				

▫ hydric ▫ non-hydric	Slope % ______	Limiting factor ______	▫ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: ______ Drainage Class ______ Hydrologic Group

L.S.E. Soil Classification: ______ Profile ______ Drainage Class ______ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: ________ ☐ Test Pit ☐ Boring

________" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Depth	Texture	Consistency	Color	Mottling
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
12				
14				
16				
18				
20				
24				
30				
40				
50				
60				

▫ hydric ▫ non-hydric	Slope % ______	Limiting factor ______	▫ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: ______ Drainage Class ______ Hydrologic Group

L.S.E. Soil Classification: ______ Profile ______ Drainage Class ______ Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 10/6/09
	name printed/typed: **Michael Glessner**	Lic.#: 397

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Stantec Consulting

EXTRA

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-77** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAMY FINE SAND	FRIABLE	LIGHT GRAY	
SANDY LOAM W/ COARSE FRAGS		OLIVE BROWN	
			COMMON, MEDIUM, DISTINCT
LIMIT OF EXCAVATION = 14"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	8-15	8"	□ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-78** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	VERY DARK GRAYISH BROWN	NONE OBSERVED
SILT LOAM		DARK OLIVE BROWN	
VERY COARSE SAND		LIGHT YELLOWISH BROWN	
LIMIT OF EXCAVATION = 12"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	8-15	>12"	□ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-79** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	MUCKY	BLACK	
	FRIABLE	VERY DARK GRAYISH BROWN	
	MUCKY	BLACK	
VERY FINE SANDY LOAM	SOMEWHAT FIRM	WHITE	MANY, COARSE, PROMINENT
LIMIT OF EXCAVATION = 12"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	0-3	9"	■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: _____ [ ] Test Pit [ ] Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling

hydric	Slope %	Limiting factor	ground water
□ non-hydric			□ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 10/6/09
	name printed/typed: **Michael Glessner**	Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-73 [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	DARK BROWN	
SANDY LOAM		DARK OLIVE BROWN	
VERY FINE SANDY LOAM	SOMEWHAT FIRM		FEW, FINE, FAINT
LIMIT OF EXCAVATION = 14"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	0-3	8"	■ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-74 [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	VERY DARK GRAYISH BROWN	NONE OBSERVED
SILT LOAM		DARK OLIVE BROWN	
SILT LOAM W/ COARSE FRAGS		GRAYISH BROWN	
LIMIT OF EXCAVATION = 18"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	8-15	>18"	▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-75 [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SILT LOAM	FRIABLE	DARK BROWNISH GRAY	NONE OBSERVED
LOAMY SAND			
LIMIT OF EXCAVATION = 16"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	0-3	>16"	▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-76 [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SILT LOAM	FRIABLE	DARK OLIVE BROWN	NONE OBSERVED
SANDY LOAM W/ COARSE FRAGS		LIGHT YELLOWISH BROWN	
LIMIT OF EXCAVATION = 10"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	3-8	>10"	▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 10/7/09
	name printed/typed: Michael Glessner	Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-69** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SILT LOAM	FRIABLE	DARK OLIVE BROWN	
SANDY LOAM			
LOAMY COARSE SAND		LIGHT BROWN	
			FEW, FINE, FAINT
			MANY, COARSE, PROMINENT

hydric	Slope %	Limiting factor	ground water
■ non-hydric	0-3	11"	□ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-70** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK OLIVE BROWN	
LOAMY SAND		LIGHT BROWN	
			FEW, FINE, FAINT
LOAMY COARSE SAND		LIGHT GRAYISH BROWN	
			MANY, COARSE, PROMINENT
LIMIT OF EXCAVATION = 18"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	3-8	9"	□ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-71** [X] Test Pit [ ] Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	VERY DARK GRAYISH BROWN	
LOAMY SAND		DARK OLIVE BROWN	
LOAMY COARSE SAND	SOMEWHAT FIRM	LIGHT BROWN GRAY	FEW, FINE, FAINT
LIMIT OF EXCAVATION = 18"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	3-8	10"	■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-72** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	VERY DARK GRAYISH BROWN	NONE OBSERVED
SILT LOAM		DARK GRAYISH BROWN	
LIMIT OF EXCAVATION = 12"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	0-3	>12"	□ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:	
	name printed/typed:	Lic.#:	
L.S.E.	signature:	Date: 10/7/09	
	name printed/typed: **Michael Glessner**	Lic.#: 397	affix professional seal

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-65** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SILT LOAM	FRIABLE	DARK OLIVE BROWN	
SAND	SOMEWHAT FIRM	LIGHT BROWNISH GRAY	MANY, COARSE, PROMINENT
	VERY FIRM		
LIMIT OF EXCAVATION = 14"			

■ hydric ▫ non-hydric | Slope %: 0-3 | Limiting factor: 5" | ■ ground water ■ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-66** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAMY SAND	FRIABLE	OLIVE GRAY	FEW, FINE, FAINT
LOAMY SAND W/ COARSE FRAGS			
LIMIT OF EXCAVATION = 12"			

■ hydric ▫ non-hydric | Slope %: 3-8 | Limiting factor: 0" | ■ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-67** [X] Test Pit [ ] Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	DARK BROWN	
LOAMY SAND			COMMON, MEDIUM, DISTINCT
LIMIT OF EXCAVATION = 20"			

▫ hydric ■ non-hydric | Slope %: 3-8 | Limiting factor: 16" | ■ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-68** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SILT LOAM	FRIABLE	DARK OLIVE BROWN	
SANDY LOAM			
LOAMY COARSE SAND		LIGHT BROWN	FEW, FINE, FAINT
			MANY, COARSE, PROMINENT
LIMIT OF EXCAVATION = 22"			

▫ hydric ■ non-hydric | Slope %: 3-8 | Limiting factor: 12" | ■ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 10/7/09
	name printed/typed: **Michael Glessner**	Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-61** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	MUCKY	BLACK	
LOAMY COARSE SAND	FRIABLE	OLIVE GRAY	MANY, COARSE, PROMINENT
LIMIT OF EXCAVATION = 12"			

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
■	□	3-8	5"	□	□	□

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-62** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	VERY DARK GRAYISH BROWN	
SILT LOAM		DARK OLIVE GRAY	COMMON, MEDIUM, FAINT
LIMIT OF EXCAVATION = 12"			

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
■	□	0-3	4"	□	□	□

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-63** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	VERY DARK GRAYISH BROWN	
SILT LOAM		DARK BROWNISH GRAY	
VERY FINE SANDY LOAM	SOMEWHAT FIRM	LIGHT OLIVE GRAY	COMMON, MEDIUM, DISTINCT
LIMIT OF EXCAVATION = 14"			

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
□	■	0-3	8"	■	■	□

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-64** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LEDGE OR BOULDERS @ SURFACE			

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
□	■	0-3	0"	□	□	■

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S. signature:		Date:
name printed/typed:		Lic.#:
L.S.E. signature:		Date: 10/7/09
name printed/typed: **Michael Glessner**		Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-57** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SILT LOAM W/ COARSE FRAGS	FRIABLE	DARK BROWNISH GRAY	NONE OBSERVED
LIMIT OF EXCAVATION = 22"			

▫ hydric ▪ non-hydric | Slope %: 0-3 | Limiting factor: >22" | ▫ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-58** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SILT LOAM	FRIABLE	LIGHT GRAYISH BROWN	NONE OBSERVED
LIMIT OF EXCAVATION = 16"			

▫ hydric ▪ non-hydric | Slope %: 0-3 | Limiting factor: >16" | ▫ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-59** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SAND	FRIABLE	YELLOWISH BROWN	
FINE SAND		LIGHT YELLOWISH BROWN	
LIMIT OF EXCAVATION = 30"			

▫ hydric ▪ non-hydric | Slope %: 0-3 | Limiting factor: >30" | ▫ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-60** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	VERY DARK BROWN	
SILT LOAM		LIGHT OLIVE BROWN	
		LIGHT GRAYISH BROWN	FEW, FINE, FAINT

▫ hydric ▪ non-hydric | Slope %: 3-8 | Limiting factor: 14" | ▪ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 10/7/09
	name printed/typed: **Michael Glessner**	Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-53** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SILT LOAM	FRIABLE	DARK OLIVE BROWN	
LOAMY SAND		LIGHT OLIVE GRAY	FEW, FINE, FAINT
LIMIT OF EXCAVATION = 16"			

▫ hydric ▪ non-hydric | Slope %: 3-8 | Limiting factor: 8" | ▪ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-54** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SILT LOAM	FRIABLE	DARK OLIVE BROWN	
FINE SANDY LOAM		LIGHT BROWNISH GRAY	
			FEW, FINE, FAINT
LIMIT OF EXCAVATION = 22"			

▫ hydric ▪ non-hydric | Slope %: 8-15 | Limiting factor: 18" | ▪ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-55** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SILT LOAM	MUCKY	DARK BROWN	
LOAM	FRIABLE	V. DK. GRAY BROWN	
LOAMY SAND	SOMEWHAT FIRM	LIGHT GRAY	MANY, COARSE, PROMINENT
LOAMY COARSE SAND & GRAVEL	LOOSE	BROWN	
LIMIT OF EXCAVATION = 19"			

▪ hydric ▫ non-hydric | Slope %: 8-15 | Limiting factor: 5" | ▪ ground water ▪ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-56** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SILT LOAM	FRIABLE	DARK OLIVE BROWN	
LOAMY VERY FINE SAND		BLUISH GRAY	MANY, COARSE, PROMINENT
LOAMY FINE SAND		YELLOWISH BROWN	
LIMIT OF EXCAVATION = 16"			

▪ hydric ▫ non-hydric | Slope %: 3-8 | Limiting factor: 3" | ▪ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

Professional Endorsements *(as applicable)*

C.S.S. signature:		Date:
name printed/typed:		Lic.#:
L.S.E. signature:		Date: 10/6/09
name printed/typed: **Michael Glessner**		Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-49** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LEDGE @ SURFACE			

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
▫	■	3-8	0"	▫	▫	■

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-50** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM	**FRIABLE**	**LIGHT OLIVE BROWN**	**NONE OBSERVED**
LEDGE OR ROCK @ 21"			

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
▫	■	3-8	21"	▫	▫	■

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-51** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SILT LOAM W/ CRUSHED ROCK	**FRIABLE**	**DARK BROWN**	
LOAMY FINE SAND W/ COARSE FRAGS	**SOMEWHAT FIRM**	**OLIVE BROWN**	**COMMON, MEDIUM, DISTINCT**

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
▫	■	0-3	18"	■	■	▫

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-52** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	**MUCKY**	**VERY DARK GRAYISH BROWN**	
LOAMY FINE SAND		**LIGHT GRAY**	
			MANY, COARSE, PROMINENT
LOAMY SAND	**FRIABLE**	**STRONG BROWN**	
LEDGE OR ROCK @ 13"			

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
▫	■	3-8	5"	■	▫	▫

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:	
	name printed/typed:	Lic.#:	
L.S.E.	signature:	Date: **10/7/09**	
	name printed/typed: **Michael Glessner**	Lic.#: **397**	affix professional seal

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-45** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	10YR 3/2 VERY DARK GRAYISH BROWN	NONE OBSERVED
LOAMY SAND		10YR 4/4 DARK YELLOWISH BROWN	
LIMIT OF EXCAVATION = 18"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	0-3	>18"	□ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-46** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	10YR 3/2 VERY DARK GRAYISH BROWN	NONE OBSERVED
LOAMY SAND		10YR 4/4 DARK YELLOWISH BROWN	
LIMIT OF EXCAVATION = 18"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	0-3	>18"	□ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-47** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAMY SAND	FRIABLE	10YR 4/6 DARK YELLOWISH BROWN	
LOAMY FINE SAND		10YR 4/4 DARK YELLOWISH BROWN	
		2.5Y 5/3	
	SOMEWHAT FIRM	LIGHT OLIVE BROWN	
LIMIT OF EXCAVATION = 18"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	3-8	16"	■ restrictive layer □ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-48** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LEDGE @ SURFACE			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	25-40	0"	□ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 10/7/09
	name printed/typed: **Michael Glessner**	Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-44 [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

Depth (inches)	Texture	Consistency	Color	Mottling
0–1	LOAM		10YR 2/2	
2			VERY DARK BROWN	
3		FRIABLE		
4	SILT LOAM W/		10YR 3/2	
5	COARSE FRAGS		VERY DARK	
6			GRAYISH BROWN	
10	SANDY LOAM		2.5Y 3/3	
12			DARK OLIVE	
14			BROWN	
17	SANDY LOAM W/		2.5Y 4/4	FEW, FINE, FAINT
18	CRUSHED ROCK		OLIVE BROWN	
	LIMIT OF EXCAVATION = 18"			

[ ] hydric [■] non-hydric	Slope % 3-8	Limiting factor 16"	[■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: ______ Drainage Class ______ Hydrologic Group

L.S.E. Soil Classification: ______ Profile ______ Drainage Class ______ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: ______ [ ] Test Pit [ ] Boring

______ " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling

[ ] hydric [ ] non-hydric | Slope % | Limiting factor | [ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: Drainage Class Hydrologic Group

L.S.E. Soil Classification: Profile Drainage Class Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: ______ [ ] Test Pit [ ] Boring

______ " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling

[ ] hydric [ ] non-hydric | Slope % | Limiting factor | [ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: Drainage Class Hydrologic Group

L.S.E. Soil Classification: Profile Drainage Class Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: ______ [ ] Test Pit [ ] Boring

______ " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling

[ ] hydric [ ] non-hydric | Slope % | Limiting factor | [ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: Drainage Class Hydrologic Group

L.S.E. Soil Classification: Profile Drainage Class Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 10/6/09
	name printed/typed: Michael Glessner	Lic.#: 397

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Stantec Consulting

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-40A** [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
		2.5Y 6/4	
LOAMY SAND		LIGHT YELLOWISH	
	FRIABLE	BROWN	
FINE SANDY LOAM		2.5Y 4/3	
		OLIVE BROWN	
LOAMY SAND	SOMEWHAT FIRM	2.5Y 5/2	COMMON, MEDIUM,
		GRAYISH BROWN	DISTINCT
LIMIT OF EXCAVATION = 28"			

[ ] hydric [■] non-hydric | Slope % 3-8 | Limiting factor 16" | [■] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-41A** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM		10YR 2/2 V. DK. BROWN	
	FRIABLE	2.5Y 4/2	
SILT LOAM		DK. GRAYISH BROWN	
	SOMEWHAT FIRM	2.5Y 6/3	
LOAMY FINE SAND		LIGHT YELLOWISH	
		BROWN	COMMON, MEDIUM,
			DISTINCT
LOAMY VERY	VERY FIRM	2.5Y 6/3	MANY, COARSE,
FINE SAND		LIGHT YELLOWISH	PROMINENT
		BROWN	
LIMIT OF EXCAVATION = 16"			

[■] hydric [ ] non-hydric | Slope % 3-8 | Limiting factor 3" | [ ] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-42** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM		10YR 2/2	
	FRIABLE	VERY DARK BROWN	
LOAMY SAND		10YR 7/1	
		LIGHT GRAY	
SILT LOAM		7.5YR 2.5/3	
		VERY DARK BROWN	
VERY FINE		7.5YR 3/4	
SANDY LOAM		DARK BROWN	
LOAMY FINE SAND		10YR 4/4	
		DK. YELLOW BROWN	FEW, FINE, FAINT
LOAMY VERY		2.5Y 5/4	
FINE SAND	SOMEWHAT FIRM	LIGHT OLIVE	COMMON, MEDIUM,
		BROWN	DISTINCT
LIMIT OF EXCAVATION = 23"			

[ ] hydric [■] non-hydric | Slope % 3-8 | Limiting factor 10" | [■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-43** [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM		10YR 2/2	
		VERY DARK BROWN	
LOAMY FINE SAND	FRIABLE	10YR 6/1 GRAY	
SILT LOAM		7.5YR 4/4	
		BROWN	
		7.5YR 3/4	
		DARK BROWN	
SANDY LOAM			
		10YR 4/6	
		STRONG BROWN	
LOAMY VERY	SOMEWHAT FIRM	2.5YR 4/4	COMMON, MEDIUM,
FINE SAND		OLIVE BROWN	DISTINCT
LIMIT OF EXCAVATION = 24"			

[ ] hydric [■] non-hydric | Slope % 3-8 | Limiting factor 12" | [■] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:	
	name printed/typed:	Lic.#:	
L.S.E.	signature:	Date: 10/6/09	
	name printed/typed: **Michael Glessner**	Lic.#: 397	affix professional seal

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-40** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
VERY FINE SAND	LOOSE TO FRIABLE	2.5Y 5/4 LIGHT OLIVE BROWN	
SILT LOAM	FRIABLE	2.5Y 3/2 VERY DARK GRAYISH BROWN	
LOAMY VERY FINE SAND W/ COARSE SAND & GRAVEL	SOMEWHAT FIRM	2.5Y 4/4 OLIVE BROWN / 2.5Y 4/3 OLIVE BROWN	FEW, FINE, FAINT / MANY, COARSE, PROMINENT

LIMIT OF EXCAVATION = 22"

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
[ ]	[■]	3-8	14"	[ ]	[■]	[ ]

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-41** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAMY SAND		10YR 6/2 LT. BROWNISH GRAY	
	FRIABLE		
SANDY LOAM		2.5Y 6/6 OLIVE YELLOW	
LOAMY FINE SAND W/ COARSE FRAGS	FIRM	2.5Y 5/4 LIGHT OLIVE BROWN	COMMON, MEDIUM, DISTINCT

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
[ ]	[■]	3-8	10"	[■]	[ ]	[ ]

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: _____ [ ] Test Pit [ ] Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
[ ]	[ ]	_____	_____	[ ]	[ ]	[ ]

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: _____ [ ] Test Pit [ ] Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
[ ]	[ ]	_____	_____	[ ]	[ ]	[ ]

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 9/18/09
	name printed/typed: **Michael Glessner**	Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-36** [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM		10YR 2/2 V. DK. BROWN	
SILT LOAM		5Y 4/3	
W/ COARSE FRAGS	FRIABLE	OLIVE	
			FEW, FINE, FAINT
LOAMY SAND		5Y 6/2	
	VERY FIRM	LIGHT OLIVE	
		GRAY	
LIMIT OF EXCAVATION = 15"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	3-8	2"	▫ restrictive layer
			▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-37** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAMY SAND		10YR 6/2 LT. BRN. GRY	
	FRIABLE		NONE OBSERVED
FINE SANDY LOAM		10YR 3/6	
		DARK YELLOWISH	
		BROWN	
LIMIT OF EXCAVATION = 16"			

hydric	Slope %	Limiting factor	ground water
▫ ■ non-hydric	3-8	>16"	▫ restrictive layer
			▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-38** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM		10YR 2/2 V. DK. BROWN	
LOAMY SAND	FRIABLE	10YR 4/6	
		DARK YELLOWISH	
		BROWN	
		2.5Y 5/6	
LOAMY FINE SAND		LIGHT OLIVE	
		BROWN	
			COMMON, MED, DIST
			MANY, COARSE,
VERY FINE SAND	VERY FIRM	2.5Y 5/4	PROMINENT
		LIGHT OLIVE	
		BROWN	
LIMIT OF EXCAVATION = 25"			

hydric	Slope %	Limiting factor	ground water
▫ ■ non-hydric	3-8	13"	▫ restrictive layer
			▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-39** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
SANDY LOAM	FRIABLE	7.5YR 3/4	
		DARK BROWN	
			COMMON, MEDIUM,
			DISTINCT
LOAMY FINE	FIRM	2.5Y 4/4	MANY, COARSE,
SAND		OLIVE BROWN	PROMINENT
LIMIT OF EXCAVATION = 40"			

hydric	Slope %	Limiting factor	ground water
▫ ■ non-hydric	25-40	30"	▫ restrictive layer
			▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 9/18/09
	name printed/typed: **Michael Glessner**	Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-32** [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
FINE SAND		7.5YR 6/1	
		GRAY	
	FRIABLE		
FINE SANDY LOAM		7.5YR 4/4	
		BROWN	
LOAMY SAND	FIRM	10YR 5/6	COMMON, MEDIUM,
		YELLOWISH BROWN	DISTINCT
LIMIT OF EXCAVATION = 30"			

[ ] hydric [■] non-hydric | Slope % 3-8 | Limiting factor 28" | [■] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-33** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAMY FINE SAND		7.5YR 4/2 BROWN	
	FRIABLE		
FINE SANDY LOAM		7.5YR 3/4	
		DARK BROWN	
VERY FINE	SOMEWHAT FIRM	10YR 4/6	FEW, FINE, FAINT
SANDY LOAM		DARK YELLOWISH	
		BROWN	
LIMIT OF EXCAVATION = 21"			

[ ] hydric [■] non-hydric | Slope % 3-8 | Limiting factor 15" | [■] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-34** [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	10YR 2/2	
		VERY DARK	
		BROWN	
SILT LOAM		10YR 3/3	
		DARK BROWN	
		10YR 4/6	
FINE SANDY LOAM		DRAK YELLOWISH	
		BROWN	
LOAMY FINE SAND	FIRM	2.5Y 5/4	MANY, COMMON,
		LIGHT OLIVE	PROMINENT
		BROWN	
LIMIT OF EXCAVATION = 24"			

[ ] hydric [■] non-hydric | Slope % 3-8 | Limiting factor 14" | [■] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-35** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
		10YR 2/2	
LOAM		VERY DARK BROWN	
	FRIABLE		
LOAMY FINE SAND		7.5YR 6/1	
		GRAY	
SANDY LOAM		7.5YR 4/4	
		BROWN	
			COMMON, MEDIUM,
			DISTINCT
	FIRM	2.5Y 4/4	
		OLIVE BROWN	
LIMIT OF EXCAVATION = 26"			

[ ] hydric [■] non-hydric | Slope % 3-8 | Limiting factor 15" | [■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 9/18/09
	name printed/typed: **Michael Glessner**	Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-28** [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAMY FINE SAND		7.5YR 5/2	
		BROWN	
	FRIABLE		
		7.5YR 4/6	
FINE SANDY LOAM		STRONG BROWN	
		10YR 4/4	
		DARK YELLOWISH	
		BROWN	
LIMIT OF EXCAVATION = 22"			

hydric	Slope %	Limiting factor	
■ non-hydric	3-8	>22"	▫ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-29** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM		10YR 3/2 V.DK.GRY.BRN	
VERY FINE SANDY LOAM	FRIABLE	10YR 4/6 DARK YELLOWISH BROWN	
	FIRM	2.5Y 5/6 LIGHT OLIVE BROWN	COMMON, MEDIUM, DISTINCT
LIMIT OF EXCAVATION = 23"			

hydric	Slope %	Limiting factor	
■ non-hydric	3-8	16"	■ ground water ■ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-30** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM		10YR 2/2 V. DK. BROWN	
LOAMY SAND		10YR 6/2 LT. BRN. GRY	
	FRIABLE		
FINE SANDY LOAM		7.5YR 3/4 DARK BROWN	
LOAMY COARSE SAND	FIRM	2.5Y 5/4 LIGHT OLIVE BROWN	MANY, COARSE, PROMINENT
LIMIT OF EXCAVATION = 30"			

hydric	Slope %	Limiting factor	
■ non-hydric	3-8	19"	■ ground water ■ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-31** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM		10YR 2/2 V. DK. BROWN	
	FRIABLE		NONE OBSERVED
VERY FINE SANDY LOAM		10YR 4/6 DARK YELLOWISH BROWN	
	SOMEWHAT FIRM		
LIMIT OF EXCAVATION = 24"			

hydric	Slope %	Limiting factor	
■ non-hydric	3-8	20"	▫ ground water ■ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 9/18/09
	name printed/typed: **Michael Glessner**	Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-24** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM		10YR 3/2 V.DK.GRY.BRN	
FINE SAND		10YR 6/2 LT. BRN. GRY	
	FRIABLE	10YR 4/6	
LOAMY SAND		DARK YELLOWISH	
		BROWN	
		10YR 5/8	
		YELLOWISH BROWN	
	FIRM		MANY, COARSE,
			PROMINENT
LIMIT OF EXCAVATION = 28"			

[ ] hydric [■] non-hydric | Slope % 3-8 | Limiting factor 25" | [■] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-25** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM		10YR 3/2 V. DARK	
		GRAYISH BROWN	
LOAMY SAND	FRIABLE	10YR 6/2 LT. BRN. GRY	
		7.5YR 3/4 DK. BRN	
SANDY LOAM		10YR 5/6	
		YELLOWISH BROWN	
	FIRM	2.5Y 5/6	MANY, COARSE,
		LIGHT OLIVE BROWN	PROMINENT
LIMIT OF EXCAVATION = 28"			

[ ] hydric [■] non-hydric | Slope % 8-15 | Limiting factor 16" | [■] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-26** [X] Test Pit [ ] Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM		10YR 3/2 VERY DARK	
		GRAYISH BROWN	
FINE SAND	FRIABLE	10YR 7/1	
		LIGHT GRAY	
LOAMY SAND		7.5Y 3/4	
		DARK BROWN	
SANDY LOAM		10YR 4/6	
		DARK YELLOWISH	
		BROWN	
		10YR 5/6	
		YELLOWISH BROWN	
	SOMEWHAT FIRM		
LIMIT OF EXCAVATION = 24"			

[ ] hydric [■] non-hydric | Slope % 3-8 | Limiting factor 20" | [ ] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-27** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
FINE SAND		10YR 7/1 LIGHT GRAY	
LOAMY SAND		7.5Y 3/4 DARK BROWN	
	FRIABLE		
		10YR 5/6	
		YELLOWISH BROWN	
FINE SANDY LOAM	SOMEWHAT FIRM	10YR 5/8	
		YELLOWISH BROWN	
LIMIT OF EXCAVATION = 20"			

[ ] hydric [■] non-hydric | Slope % 8-15 | Limiting factor 14" | [ ] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 9/18/09
	name printed/typed: **Michael Glessner**	Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-21** [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
		10YR 3/2	
LOAM	FRIABLE	VERY DARK	
		GRAYISH BROWN	
LOAMY SAND		7.5Y 5/6	
		STRONG BROWN	
LOAMY VERY FINE SAND	FIRM	10YR 4/4	COMMON, MEDIUM,
		DARK YELLOWISH	DISTINCT
		BROWN	
LIMIT OF EXCAVATION = 29"			

[ ] hydric [■] non-hydric | Slope % **8-15** | Limiting factor **19"** | [■] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-22** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	10YR 2/2	
		VERY DARK BROWN	
		10YR 3/2	
SILT LOAM		VERY DARK	
W/ COARSE FRAGS		GRAYISH BROWN	
COARSE SANDY LOAM		2.5Y 4/4	MANY, COARSE,
W/ ROCKS & GRAVEL		OLIVE BROWN	PROMINENT
LIMIT OF EXCAVATION = 20"			

[ ] hydric [■] non-hydric | Slope % **15-25** | Limiting factor **9"** | [■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-23** [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
		7.5YR 5/1 GRAY	
		5YR 4/6	
LOAMY SAND	FRIABLE	YELLOWISH RED	
		10YR 5/6	
		YELLOWISH BROWN	
LOAMY FINE SAND		10YR 6/6	
		BROWNISH YELLOW	
LIMIT OF EXCAVATION = 19"			

[ ] hydric [■] non-hydric | Slope % **8-15** | Limiting factor **>19"** | [ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: _____ [ ] Test Pit [ ] Boring

" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling

[ ] hydric [ ] non-hydric | Slope % _____ | Limiting factor _____ | [ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S. signature:		Date:
name printed/typed:		Lic.#:
L.S.E. signature:		Date: **9/17/09**
name printed/typed: **Michael Glessner**		Lic.#: **397**

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-17** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAMY SAND		7.5YR 7/1 LT. GRAY	
FINE SANDY LOAM	FRIABLE	7.5YR 3/4	
		DARK BROWN	
SANDY LOAM		10YR 4/4	
		DARK YELLOWISH	
		BROWN	
SANDY LOAM W/	SOMEWHAT FIRM	2.5Y 5/6	FEW, FINE, FAINT
COARSE FRAGMENTS		LIGHT OLIVE BROWN	
LIMIT OF EXCAVATION = 17"			

[ ] hydric [■] non-hydric | Slope % 3-8 | Limiting factor 15" | [■] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-18** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM		10YR 3/2 V.DK.GRY.BRN	
		7.5Y 5/1 GRAY	
LOAMY SAND	FRIABLE	7.5YR 3/4 DK. BROWN	
		10YR 5/6	
		YELLOWISH BROWN	
SANDY LOAM	FIRM		COMMON, MEDIUM,
			DISTINCT
LIMIT OF EXCAVATION = 20"			

[ ] hydric [■] non-hydric | Slope % 3-8 | Limiting factor 14" | [■] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-19** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM		10YR 3/2 VERY DARK	
		GRAYISH BROWN	
LOAMY FINE SAND	FRIABLE	7.5Y 5/1 GRAY	
FINE SANDY LOAM		7.5YR 4/4	
		BROWN	
	SOMEWHAT FIRM	10YR 5/6	
		YELLOWISH BROWN	
LIMIT OF EXCAVATION = 26"			

[ ] hydric [■] non-hydric | Slope % 3-8 | Limiting factor 15" | [ ] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-20** [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
		7.5Y 5/1 GRAY	
LOAMY SAND	FRIABLE	5YR 5/6	
		OLIVE	
		10YR 5/6	
		DARK YELLOWISH	
		BROWN	
LIMIT OF EXCAVATION = 17"			

[ ] hydric [■] non-hydric | Slope % 8-15 | Limiting factor >17" | [ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 9/17/09
	name printed/typed: **Michael Glessner**	Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-13** [X] Test Pit [ ] Boring

6 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
		7.5YR 5/1 GRAY	
LOAMY SAND	FRIABLE	7.5YR 5/6	
LIMIT OF EXCAVATION = 18"			

[ ] hydric [■] non-hydric | Slope %: 25-40 | Limiting factor: >18" | [ ] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-14** [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	10YR 3/2	
		VERY DARK	
		GRAYISH BROWN	
LOAMY SAND		7.5YR 5/1 GRAY	
		5YR 3/3	
		DARK REDDISH	
		BROWN	
LOAMY FINE SAND		10YR 4/6	
		DARK YELLOWISH	
		BROWN	
LOAMY VERY FINE SAND	FIRM	2.5Y 5/6 LIGHT OLIVE BROWN	FEW, FINE, FAINT

[ ] hydric [■] non-hydric | Slope %: 0-3 | Limiting factor: 19" | [■] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-15** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	10YR 3/2	
		VERY DARK	
		GRAYISH BROWN	
LOAMY SAND		7.5Y 5/1	
		GRAY	
		7.5Y 3/4	
		DARK BROWN	
FINE SAND	SOMEWHAT FIRM	2.5Y 5/6	FEW, FINE, FAINT
		LIGHT OLIVE BROWN	
LIMIT OF EXCAVATION = 24"			

[ ] hydric [■] non-hydric | Slope %: 0-3 | Limiting factor: 22" | [■] ground water [■] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-16** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAMY SAND	FRIABLE	7.5YR 5/1	
		GRAY	
		7.5YR 3/4	
FINE SANDY LOAM		DARK BROWN	
LOAMY VERY FINE SAND		2.5Y 5/6 LIGHT OLIVE BROWN	MANY, COARSE, PROMINENT
VERY FINE SAND	CEMENTED	G1 5/10Y GREENISH GRAY	
LIMIT OF EXCAVATION = 28"			

[ ] hydric [■] non-hydric | Slope %: 0-3 | Limiting factor: 6" | [■] ground water [ ] restrictive layer [ ] bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 9/17/09
	name printed/typed: **Michael Glessner**	Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-9** [X] Test Pit [ ] Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAMY SAND		7.5YR 5/1 GRAY	
VERY FINE SANDY LOAM	FRIABLE	7.5YR 3/4 DARK BROWN	
FINE SANDY LOAM		7.5YR 2.5/3 VERY DARK BROWN	
LOAMY COARSE SAND		10YR 4/2 DARK GRAYISH BROWN	FEW, FINE, FAINT
LIMIT OF EXCAVATION = 22"			

▫ hydric ▪ non-hydric | Slope %: 3-8 | Limiting factor: >22" | ▫ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-10** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	10YR 3/2 VERY DARK GRAYISH BROWN	NONE OBSERVED
LOAMY SAND		7.5YR 3/4	
FINE SANDY LOAM		DARK BROWN	
VERY FINE SANDY LOAM		7.5Y 2.5/3 VERY DARK BROWN	
LIMIT OF EXCAVATION = 23"			

▫ hydric ▪ non-hydric | Slope %: 3-8 | Limiting factor: >23" | ▫ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-11** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	10YR 3/2 DARK BROWN	NONE OBSERVED
LOAMY SAND		7.5YR 5/1 GRAY	
SILT LOAM		7.5YR 3/4 DARK BROWN	
VERY FINE SANDY LOAM		7.5YR 3/1 VERY DARK GRAY	
ROCK OR LEDGE @ 16"			

▫ hydric ▪ non-hydric | Slope %: 8-15 | Limiting factor: 16" | ▫ ground water ▫ restrictive layer ▪ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-12** [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	10YR 3/2 VERY DARK GRAYISH BROWN	
SILT LOAM		7.5Y 3/4 DARK BROWN	
VERY FINE SANDY LOAM		2.5Y 4/4 OLIVE BROWN	FEW, FINE, FAINT
ROCK OR LEDGE @ 29"			

▫ hydric ▪ non-hydric | Slope %: 15-25 | Limiting factor: 19" | ▪ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 9/17/09
	name printed/typed: **Michael Glessner**	Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-5** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAMY SAND	FRIABLE	7.5Y 7/1	NONE OBSERVED
		LIGHT GRAY	
		7.5Y 3/3	
		DARK BROWN	
ROCK OR LEDGE @ 16"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	0-3	16"	▫ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-6** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAMY SAND	FRIABLE	7.5Y 7/1 LT. GRAY	
			NONE OBSERVED
		7.5Y 3/3	
		DARK BRWON	
		7.5Y 3/4	
		DARK BROWN	
ROCK OR LEDGE @ 18"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	8-15	18"	▫ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-7** [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	10YR 3/2 VERY DARK	
		GRAYISH BROWN	NONE OBSERVED
LOAMY SAND		7.5YR 7/1 LT. GRAY	
FINE SANDY LOAM		7.5YR 5/6	
		STRONG BROWN	
		7.5YR 3/4	
		DARK BROWN	
		2.5Y 5/6	
LOAMY SAND		LIGHT OLIVE BROWN	
LEDGE OR ROCK @ 16"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	8-15	16"	▫ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: **TP-8** [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	10YR 3/2 V.D.GRY.BRN.	
LOAMY SAND		7.5YR 5/1 GRAY	
			NONE OBSERVED
SANDY LOAM		7.5YR 3/4	
		DARK BROWN	
VERY FINE		10YR 3/4	
LOAMY SAND		DARK YELLOWISH	
		BROWN	
ROCK OR LEDGE @ 16"			

hydric	Slope %	Limiting factor	ground water
■ non-hydric	3-8	16"	▫ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class _____ Hydrologic Group _____

L.S.E. Soil Classification: _____ Profile _____ Drainage Class _____ Design Class

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:
	name printed/typed:	Lic.#:
L.S.E.	signature:	Date: 9/17/09
	name printed/typed: **Michael Glessner**	Lic.#: 397

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SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
Highland Wind Project	Highland Wind LLC	Highland Plantation, ME

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-1 [X] Test Pit [ ] Boring

5 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
SILT LOAM W/ COARSE SAND	FRIABLE	5Y 3/1 VERY DARK GRAY	
LOAMY SAND		5Y 5/1 GRAY	
FINE SANDY LOAM	SOMEWHAT FIRM	5Y 6/1 GRAY	MANY, COARSE, DISTINCT
LEDGE OR STONE @ 11"			

■ hydric ▫ non-hydric | Slope %: 3-8 | Limiting factor: 8" | ■ ground water ▪ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-2 [X] Test Pit [ ] Boring

4 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
LOAM	FRIABLE	7.5Y 3/3 DARK BROWN	NONE OBSERVED
SILT LOAM		10YR 4/3 DARK GRAY	
BOULDER OR LEDGE @ 12"			

▫ hydric ■ non-hydric | Slope %: 8-15 | Limiting factor: 12" | ▫ ground water ▫ restrictive layer ■ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-3 [X] Test Pit [ ] Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
		7.5Y 7/1 LIGHT GRAY	NONE OBSERVED
LOAMY SAND	FRIABLE	7.5Y 3/3 DARK BROWN	
SANDY LOAM		10YR 3/3 DARK BROWN	
		2.5Y 4/4 OLIVE BROWN	
LIMIT OF EXCAVATION = 22"			

▫ hydric ■ non-hydric | Slope %: 8-15 | Limiting factor: >22" | ▫ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-4 [X] Test Pit [ ] Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistency	Color	Mottling
		7.5Y 7/1 LT. GRAY	
LOAMY SAND	FRIABLE	7.5Y 3/3 DARK BROWN	NONE OBSERVED
SANDY LOAM		2.5Y 5/6 LIGHT OLIVE BROWN	
FINE SANDY LOAM		2.5Y 6/4 LIGHT YELLOWISH BROWN	
LIMIT OF EXCAVATION = 27"			

▫ hydric ■ non-hydric | Slope %: 15-25 | Limiting factor: >27" | ▫ ground water ▫ restrictive layer ▫ bedrock

C.S.S. Soil Series / phase name: _____ Drainage Class: _____ Hydrologic Group: _____

L.S.E. Soil Classification: _____ Profile: _____ Drainage Class: _____ Design Class: _____

Professional Endorsements *(as applicable)*

C.S.S.	signature:	Date:	
	name printed/typed:	Lic.#:	
L.S.E.	signature:	Date: 9/17/09	
	name printed/typed: Michael Glessner	Lic.#: 397	affix professional seal

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.

Oxyaquic — Soil drainage conditions that imply soil saturation for prolonged periods, which are rich in dissolved oxygen and therefore do not exhibit the anaerobic conditions necessary to create hydric soil morphology.

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

HIGHLAND WINDPOWER PROJECT
PHOTOGRAPHS

Photo 1: Existing Transmission Line 6.5 miles+/- from Wyman Dam (Extremely Stony).

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: Houston Brook on existing Transmission Line south of Rowe Pond Road.

Photo 8: Shallow to bedrock outcropping with thin layer of organic Rock Outcrop/Ricker land form.

Photo 9: Test Pit 11, *Rawsonville*, sandy loam textured soil greater than 20 inches but less than 40 inches to bedrock.

Photo 10: Test Pit 14, *Ricker*, shallow organic horizon overlying bedrock.

Photo 11: Test Pit 115 *Dixfield/Skerry*.

Photo 12: Test Pit 114 *Abram,* shallow to bedrock sandy loam soil overlying bedrock less than 10 inches in depth.