11.0 SOILS

Atlantic Resource Co, LLC (ARC) conducted soil surveys within the Project area to document and classify soils within the proposed Project areas, identify potential limitations of the soil, and recommend corrective measures with respect to the documented soils and the proposed development at the site. Specifically, the following surveys were conducted in the following locations:

- Class C (Medium High Intensity Level) surveys and mapping in proposed solar array areas
- Class B (High Intensity Level) survey and mapping within the proposed substation area
- Class A (High Intensity Level) survey and mapping within proposed laydown yard area
- Class L (Linear Level) survey and mapping within collection line corridors (where not adjacent to a proposed solar array)

Based on observations of the site, information obtained in explorations, and proposed use of the site, the soils located in the Project area appear to be generally suitable for the proposed solar array installation. Those of the soils that are somewhat limited or very limited and present in the project area can be mitigated by proper engineering design of site features. Boulders and stones will be removed from the project area to avoid any further limitations. Proper machinery will be used during installation to mitigate sloping limitations. The Project layout will avoid and minimize impact to areas with hydric soils to mitigate limitations. Three Rivers Solar Power has contracted with a solar design and installation engineer and it is anticipated that the overall project will be designed with the site features and soil limitations in mind. See Exhibit 11-1 for the full soil survey and report.

Exhibit 11-1

Three Rivers Solar Soils Survey Report

Soil Survey Report

Three Rivers Solar Power, LLC

T16MD, Maine

October 03, 2019

Prepared For:

Three Rivers Solar Power, LLC
89 Main Street
Yarmouth, ME 04096

Prepared By:

Atlantic Resource Co, LLC
P.O. Box 76
Bass Harbor, ME 04653
ARC #B18-006

Table of Contents

1.0 INTRODUCTION

This Report presents the findings of soil survey services conducted by Atlantic Resource Co, LLC (ARC) for the Three Rivers Solar Power, LLC project in T16MD, Maine. The purpose of the services was to document and classify soil within the proposed project areas, identify potential limitations of the soil, and recommend corrective measures with respect to the documented soils and the proposed development at the site, which is a large-scale solar array and substation. Specifically, the soil survey services were conducted at a Class C – Medium High Intensity level of soils mapping in the proposed solar array areas, a Class B – High Intensity level of soils mapping within the proposed substation area, a Class A – High Intensity level of soils mapping within the proposed laydown yard, and a Class L – Linear level of soils mapping within the collector line corridors (where not adjacent to a proposed solar array).

This Soil Survey was conducted following standards as defined by the Maine Association of Professional Soil Scientists (MAPSS)[1]. The area of services (i.e. the "site") was an approximately 520-acre solar array installation in six areas of the property, an approximately 2-acre substation area, an approximately 2-acre laydown yard, and connector roads between the six solar array areas.

This report is subject to the Limitations in Appendix A. Appendix B contains a Site Location Map and Class C – Medium High Intensity, Class B – High Intensity, Class A - High Intensity, and Class L – Linear Soil Survey Plans. Appendix C contains a Soil Survey Legend and Soil Map Unit Descriptions. Appendix D contains a Soil Conditions Summary Table and Test Pit Logs. Appendix E is a Glossary of terms.

1.1 Site Location and Description

The approximately 520-acre proposed development site is located east of Eastbrook and west of Deblois, in T16MD, Maine. A Site Location Map is attached in Appendix B.

Class C Soil Survey Area: The six proposed solar array development areas are mostly located on topographic "hills" within the property and total approximately 520 acres.

[1] Maine Association of Professional Soil Scientists. Guidelines for Maine Certified Soil Scientists for Soil Identification and Mapping. February 2004, revised March 2009.

These six areas are labeled on the plans (in Appendix B) as Areas #1 through #6. The proposed development areas are in various states of conversion to agricultural land, for blueberry production, with Areas #1, #2 and #3 being largely converted (i.e. logged, stumped, and graded, with large boulders currently being removed from the northern portion of Area #1) and Areas #4, #5, and #6 only having been logged. The topographic "hills" are dominated by well and moderately well drained glacial till sediments. The topographically lower areas are dominated by somewhat poorly to poorly drained glacial till and glacio-marine/lacustrine sediments. Some areas of glacial outwash exist on the site.

Class B Soil Survey Area: The proposed substation is located in the northern portion of Area #6, adjacent to a powerline right-of-way. This area is at a mid-topographic elevation in a logged and partially converted area and contains glacial till and glacio-marine/lacustrine sediments.

Class A Soil Survey Area: The proposed laydown yard is northeast of Area #1. This area is at a mid-topographic elevation in a converted agricultural field, and contains glacial till and glacio-fluvial sediments. The surface boulders have been removed from this area.

Class L Soil Survey Area: The proposed buried electrical connector lines will be throughout the development areas (Class C Soil Survey area), but also within existing gravel roadbeds that connect the development areas (Class L Soil Survey area). The roads are various depths of stony, cobbly and gravelly sandy and loamy fill over native glacial till and glacio-marine/lacustrine soils.

2.0 EXPLORATION AND TESTING

The field assessment for the Soil Survey was conducted in November and December of 2018, and January, July, August and September of 2019. Test pit locations were selected in the field based on site research, perceived differences in landform, topography, landscape features and vegetation, and in consideration of the proposed development at the site.

A total of 133 test pits were documented of which 95 were excavator dug and 38 were hand dug. Soil scientists responsible for documenting test pits included Roger St.

Amand, C.S.S. #471, Aleita M. Burman, C.S.S. #430, and Amy N. Jones, C.S.S. #499. Exposed soil profiles were examined for horizon development, color, depth of redoximorphic features (mottling), texture, coarse fragment content, root abundance, consistence, structure, depth of saturation, and other pertinent soil characteristics. Surficial features such as rock outcrops, stoniness, and groundwater seepage were noted when encountered. In addition, numerous probes were made into the soil with a hand auger throughout the site, and road cuts were observed, in order to observe and confirm anticipated soil profiles. The test pits were located using a mapping grade GPS receiver. The Class C – Medium High Intensity, Class B – High Intensity, Class A – High Intensity, and Class L – Linear Soil Survey Plans attached in Appendix B illustrate the location, type, and extent of the soils observed at the site at each mapping level.

3.0 METHODOLOGY

Prior to initiating field work, the Natural Resources Conservation Service (NRCS) published soil survey, the National Wetland Inventory (NWI) published wetland mapping, and the United States Geological Service (USGS) topographic map of the site were reviewed to gain insight into general site conditions.

Soil classification is a broad term used to describe the process by which Soil Scientists consistently identify, describe and map soils for a specific use or purpose. For this project, Class C – Medium High Intensity, Class B- High Intensity, Class A – High Intensity, and Class L – Linear Soil Surveys were conducted for the purpose of identifying potential limitations of the soil with respect to the proposed solar array, substation, laydown yard, and electrical collector lines (where between array areas), respectively. Mapping and soil classification were conducted in accordance with standards and guidelines in place at the time of reporting.

The soil at each test pit was classified using the Keys to Soil Taxonomy (2003) to most closely match the soil series that are mapped in Maine by the USDA Natural Resource Conservation Service (NRCS). Hydric soils were identified within wetlands during ARC's Protected Natural Resources services using the Field Indicators of Hydric Soils in the United States (NRCS) and the 2012 (Version 2.0) Supplement to the 1987 Corps of Engineers Wetland Delineation Manual.

Hand dug test pits were classified based on observed soil characteristics to the depth of the test pit, and then using nearby excavator dug test pit information, from similar landforms and landscape positions, to infer the substratum at the test pit location. Hand dug test pits are named as “closest to” the named soil series due to lack of observation of the soils below the test pit depth.

Soils were documented to no greater than about 6.5’ in depth, which approximately corresponds to the recognized lower limit of soils. The use and management section of this report does not include soil limitations for the proposed development if it occurs below this depth.

Soil morphological features that typically are used as indicators of soil drainage are more poorly expressed in "disturbed" soils, which include areas where surface conditions have been altered by activities such as plowing, harrowing, trampling by livestock, flooding, draining, forest harvest, and forest fires. Since the proposed development areas, substation area and laydown yard are either cleared agricultural field and/or were heavily logged, some disturbance has occurred. The northern portion of Area #1 was undergoing continued conversion to agricultural land with flailing and on-going removal of large boulders observed throughout the test pit field work. As well, the roadbeds where the electrical collector lines will be buried are altered by the type and depth of fill.

Soil map unit boundaries are based on observations at the site, landform features, slopes, and professional judgment. A delineated map unit represents an area dominated by one or more named soil types. On the landscape, however, soils are naturally variable bodies. As a result, map units often have inclusions of soils for which the map unit is not named.

Soil complexes and consociations were mapped in this survey. A soil complex consists of two or more named dissimilar soils that regularly repeat on the landscape but are intricate enough that they cannot be delineated at the scale of mapping. An example of a complex is the map unit MPB, which includes both Monadnock and Peru soils. A consociation consists of one dominant soil that occurs in the map unit. An example of a consociation is map unit LaB, where only the Lamoine soil is named.

Similar inclusions are soils that have properties and management potentials similar to the dominant soils for which the map unit was named. Dissimilar soils differ enough in one of more characteristics that their use and management differs from the mapped soil. Soil map units and the soil survey plan were designed in accordance with the standards of MAPSS (amended 2009) and the National Cooperative Soil Survey (1993, 1996). Standards set forth by NCSS and MAPSS dictate the amount of allowable dissimilar inclusions. Refer to Table 1, below, for MAPSS standards for each class of soil survey used at this site.

Table 1: MAPSS Soil Survey Classes and Standards Used

Class	Dissimilar Limiting Inclusions	Scale	Ground Control	Base Map
C	No greater than 5 acres if contiguous	1" = 500' or larger	as determined by mapper	
B	No greater than one acre if contiguous	1" = 200' or larger	located by compass from known survey points, or other method of equal or greater accuracy	5-foot contour lines
A	No greater than 1/8 acre if contiguous	1" = 100' or larger	located to sub-meter accuracy under the direction of a qualified professional	2-foot contour lines
L	No greater than 1/8 acre if contiguous	1" = 100' or larger	located to sub-meter accuracy under the direction of a qualified professional	2-foot contour lines

The Class C – Medium High Intensity Soil Survey, in the proposed solar array development areas, uses a base map with 2-foot contours, which is a closer topographic contour than generally used for a Class C Soil Survey. The closer topographic contour was used so that C (8-15%) and D (15-25%) slopes could be shown on the soil survey plan, as these slopes were identified as potentially limiting for a solar array. Most of the map units that contain C and D slopes are smaller in size than

the 5-acre allowable dissimilar limiting inclusion and therefore, many do not have test pits within them.

The Class L – Linear Soil Survey, in the proposed electrical collector line locations (where not within a solar array area), was conducted by documenting a test pit directly adjacent to the filled roadbed, and then documenting the depth of the roadbed. This allowed the mapper to document soils beneath the roadbed where the collector lines will be located, as well as adjacent to the roadbed in proposed stormwater buffer areas.

It should be noted that soil map unit design is at least in part influenced by the intended use of the soil survey and information provided may not always be adequate for uses other than that for which the soil survey was originally developed. Soils which are considered non-limiting for one use may be considered limiting for another use. In this Soil Survey, soil phases and variants are used to delineate limiting soils for solar array, substation, and electrical collector line development from nonlimiting soils.

Limitations for each soil were reported based on the USDA NRCS web soil survey soil ratings for "Building Site Development" use and "Dwellings with Basements" and "Roads" sub-uses. These uses and sub-uses most closely matched the development requirements for the site.

4.0 GENERAL SITE AND SUBSURFACE CONDITIONS

4.1 Solar Arrays and Collector Lines (Class C Soil Survey area)

4.1.1 Areas #1, #2 and #3

The proposed solar array development Areas #1, #2 and #3 are dominated by an undulating and rolling, moderately well to well drained, glacial till derived landscape. The mid- and lower topographic positions on the toe and base slopes, as well as concave areas within the higher topographic positions, contain moderately well, somewhat poorly and poorly drained glacial till, glacio-marine/lacustrine, and glacio-fluvial sediments. These Areas are dominated by 1 to 8 percent slopes, however, limited sideslope areas ranged up to 25 percent slopes. These Areas have a very to extremely bouldery surface, however, many of the boulders and stones in the northern portion of Area #1 have been removed in the course of conversion to blueberry field.

The dominant soils documented in Areas #1, #2 and #3 are Monadnock and Peru soils. Monadnock soils are well drained, coarse-loamy over sandy-skeletal textured soils formed in glacial till. Peru soils are moderately well drained, coarse-loamy soils formed in glacial till. Other soils documented in these Areas are Skerry, Colonel, Croghan, Roundabout, Lamoine, Brayton and Scantic soils. Skerry, Colonel and Brayton soils are moderately well, somewhat poorly and poorly drained glacial till sediments. Roundabout, Lamoine and Scantic soils are somewhat poorly and poorly drained glacio-marine/lacustrine sediments. Croghan soils are moderately well drained glacio-fluvial sediments.

It should be noted that the Monadnock, Skerry, and Peru soils contain large rotten boulders beneath the soil surface. These rotten boulders were easily excavated through and broke into coarse gravel sized pieces upon disturbance.

4.1.2 Areas #4, #5 and #6

The proposed solar array development Areas #4, #5 and #6 are dominated by a nearly level and undulating, moderately well to somewhat poorly drained, glacio-marine/lacustrine landscape with small “hills” or ridges of moderately well and well drained glacial till sediments interspersed. The lower topographic positions on base slopes and concave areas contain poorly drained glacio-marine/lacustrine sediments. These Areas are dominated by 1 to 8 percent slopes, however, limited sideslope areas range up to 25 percent slopes. These Areas have a very to extremely bouldery surface.

The dominant soils documented in Areas #4, #5 and #6 are Buxton, Lamoine, Roundabout and Scantic soils. Buxton, Lamoine and Scantic soils are moderately well, somewhat poorly and poorly drained (respectively), fine textured soils formed in glacio-marine/lacustrine sediments. Roundabout soils are somewhat poorly drained, coarse-silty soils formed in glacio-marine/lacustrine sediments. Other soils documented in these Areas are Monadnock and Skerry soils. Monadnock and Skerry are well and moderately well drained glacial till sediments.

4.2 Substation (Class B Soil Survey area)

The proposed substation area is dominated by nearly level and undulating, moderately well to somewhat poorly drained, glacio-marine/lacustrine derived landscape. This area

is dominated by 1 to 8 percent slopes, however, limited sideslope areas ranged up to 15 percent slopes. This area has a very to extremely bouldery surface.

The dominant soils documented in the substation area are Buxton and Lamoine soils. Buxton and Lamoine soils are moderately well and somewhat poorly drained (respectively), fine textured soils formed in glacio-marine/lacustrine sediments. Other soils documented in this area are Peru and Bucksport soils. Peru soils are moderately well drained soils formed in glacial till sediments. Bucksport soils are very poorly drained soils formed in organic sediments.

4.3 Laydown Yard (Class A Soil Survey area)

The laydown yard area is dominated by nearly level and undulating, moderately well drained gravelly and sandy glacio-fluvial sediments. The lower topographic positions on base slopes are dominated by glacio-marine/lacustrine over glacio-fluvial sediments and the higher topographic positions are dominated by glacial till sediments. This area is dominated by 1 to 8 percent slopes, however, limited sideslope areas range up to 25 percent slopes.

Soils documented in the laydown yard area are Hermon, Croghan, Skerry, and Buxton variant. Hermon soils are somewhat excessively drained glacial till sediments. Croghan soils are moderately well drained glacio-fluvial sediments. Skerry soils are moderately well drained glacial till sediments. Buxton variant soils (in this area) are moderately well drained glacio-marine/lacustrine over glacio-fluvial sediments. This area has had the large surface boulders removed.

4.4 Collector Lines Outside of Solar Array Areas (Class L Soil Survey area)

The buried collector line areas, where located in existing roadbeds between the solar array development areas, are dominated by level to nearly level roadbed over native soils of varying origin and drainage class. These areas are dominated by 1 to 5 percent slopes. The observed roadbed fill is extremely gravelly loamy sand and gravelly fine sandy loam with stones and cobbles.

The native soils under the roadbed fill in the collector line areas include Skerry, Croghan, Lamoine, Scantic, Biddeford and Bucksport soils. Skerry soils are moderately well drained glacial till sediments. Croghan soils are moderately well drained glacio-

fluvial sediments. Lamoine, Scantic and Biddeford soils are somewhat poorly to very poorly drained glacio-marine/lacustrine sediments. Bucksport soils are very poorly drained organic sediments.

5.0 USE AND MANAGEMENT

5.1 Solar Arrays and Collector Lines (Class C Soil Survey area)

The solar array installation will require support posts for the solar panels to be driven into, or buried in, the ground to a depth below frost and to a depth sufficient to provide structural support for the panels. It will also require trenches for installation of collector lines, some of which will be up to 6 feet in depth. Solar panels will require as much exposure to the southern sky as possible. The site has existing roads that will be used to access the solar arrays, and so new road construction will not be needed.

Based on observations of the site, information obtained in explorations, and proposed use of the site, the Monadnock, Peru, Skerry, Croghan, Colonel, Buxton, Roundabout, and Lamoine soils are generally suitable for the proposed solar array installation.

Monadnock soils are Somewhat Limited due to frost action. Peru soils are Somewhat Limited due to depth to saturated zone and frost action. Skerry soils are Somewhat Limited due to depth to saturated zone. Croghan soils are Very Limited due to depth to saturated zone. Colonel soils are Very Limited due to depth to saturated zone and frost action. Buxton soils are Very Limited due to depth to saturated zone and shrink-swell potential. Roundabout soils are Very Limited due to depth to saturated zone. Lamoine soils are Very Limited due to depth to saturated zone, frost action, low strength and shrink-swell potential.

Limitations due to depth to saturated zone, frost action, low strength and shrink-swell potential can be mitigated by proper engineering design of site features. Three Rivers Solar Power, LLC has contracted with a solar design and installation engineer, and it is anticipated that they will design site features with these limitations in mind. Other ways to mitigate limitations due to these soil characteristics are additions of granular fill, proper drainage of underground features, and proper above-ground drainage.

The very to extremely bouldery surface is limiting for site development due to difficulty working around the boulders and stones with certain machinery, as well as driving support posts and digging trenches. These limitations can be mitigated by moving or removing the boulders and stones that are in the way of machinery, support posts or trenches.

The C and D slopes are limiting for site development due to access by machinery during construction and potential for erosion and sedimentation of bare soils. This limitation can be mitigated by using the correct machinery for the installation process, as well as cut and fill slopes, grading, additions of granular fill, and proper erosion and sedimentation control measures.

Based on our observations of the site, information obtained in our explorations, and our knowledge of the proposed use of the site, the Brayton and Scantic soils are generally not suitable for the proposed solar array installation.

Brayton soils are Very Limited due to depth to saturated zone and frost action. Scantic soils are Very Limited due to depth to saturated zone, frost action, low strength and shrink-swell potential. Brayton and Scantic soils are both poorly drained and classified as hydric. They are both within mapped wetlands on the site. Wetlands are protected by State and Federal law, and may present permitting limitations. Limitations due to hydric soils can be mitigated by avoiding and minimizing impact to these areas and proper design and layout of site improvements.

5.2 Substation (Class B Soil Survey area)

The substation will require development of a pad and buildings, support structures for electrical components, and fencing. The support structure posts and fencing will be required to be driven into, or buried in, the ground to a depth below frost and to a depth sufficient to provide structural support. It will also require trenches for installation of collector lines to the substation.

Based on observations of the site, information obtained in explorations, and the proposed use of the site, the Peru, Buxton and Lamoine soils are generally suitable for the proposed substation installation.

Peru soils are Somewhat Limited due to depth to saturated zone and frost action. Buxton soils are Very Limited due to depth to saturated zone and shrink-swell potential. Lamoine soils are Very Limited due to depth to saturated zone, frost action, low strength and shrink-swell potential.

Limitations due to depth to saturated zone, frost action, low strength and shrink-swell potential can be mitigated by proper engineering design of site features. Three Rivers Solar Power, LLC has contracted with a substation design and installation engineer, and it is anticipated that they will design site features with these limitations in mind. Other ways to mitigate limitations due to these soil characteristics are additions of granular fill, proper drainage of underground features, and proper above-ground drainage.

The very to extremely bouldery surface is limiting for site development due to difficulty working around the boulders and stones with certain machinery, as well as driving support structure posts and digging trenches. These limitations can be mitigated by moving or removing the boulders and stones, and/or additions of granular fill.

The C slopes are limiting for site development due to access by machinery during construction and potential for erosion and sedimentation of bare soils. This limitation can be mitigated by using the correct machinery for the installation process, as well as cut and fill slopes, grading, additions of granular fill, and proper erosion and sedimentation control measures.

Based on observations of the site, information obtained in explorations, and the proposed use of the site, the Bucksport soils are generally not suitable for the proposed solar array installation.

Bucksport soils are Very Limited for site development and roads due to ponding, depth to saturated zone, frost action, and low strength. Limitations due to these characteristics can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. This map unit is hydric and in a mapped wetland. Wetlands are protected by State and Federal law, and may present permitting limitations. Limitations due to hydric soils can be mitigated by avoiding and minimizing impact to these areas and proper design and layout of site improvements.

5.3 Laydown Yard (Class A Soil Survey areas)

The laydown yard will require that it be a relatively level area where construction components can be stored until they are used. Based on observations of the site, information obtained in explorations, and the proposed use of the site, the Hermon, Croghan, Buxton variant, and Skerry soils are generally suitable for the proposed laydown yard, with grading to make it more level depending on the needs of the contractor.

Hermon soils are Somewhat Limited for site development and roads due to large stones (the large surface boulders have been mostly removed from this area). Croghan soils are Very Limited for site development and roads due to depth to saturated zone. Buxton variant soils (in this area) are Very Limited due to depth to saturated zone and shrink-swell potential. Skerry soils are Somewhat Limited due to depth to saturated zone. C and D slope soils are Somewhat Limited and Very Limited due to slope (respectively).

Limitations due to depth to saturated zone and shrink-swell potential can be mitigated by proper engineering design of site features. Three Rivers Solar Power, LLC has contracted with a design engineer, and it is anticipated that they will design the laydown yard with these limitations in mind. Other ways to mitigate limitations due to these soil characteristics are additions of granular fill, proper drainage of underground features, and proper above-ground drainage. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, grading, erosion control measures and proper feature design.

The very to extremely bouldery surface is limiting for site development due to difficulty working around the boulders and stones with certain machinery, as well as being in the way of storage areas. These limitations can be mitigated by moving or removing the boulders and stones, and/or additions of granular fill.

5.4 Collector Lines Outside of Solar Array Areas (Class L Soil Survey area)

The buried collector lines, where located in existing roadbeds between the solar array development areas, will require trenches, some of which will be up to 6 feet in depth.

Based on our observations of the site, information obtained in our explorations, and our knowledge of the proposed use of the site, the filled (0”-20” of roadbed over native soil) and buried (20”-40” of roadbed over native soil) Skerry, Croghan, Lamoine, Scantic, Biddeford, and Bucksport soils, as well as the Udorthents (roadbed to at least 40” in depth) are generally suitable for the proposed solar array installation.

Skerry soils are Somewhat Limited due to depth to saturated zone. Croghan soils are Very Limited due to depth to saturated zone. Lamoine soils are Very Limited due to depth to saturated zone, frost action, low strength and shrink-swell potential. Scantic soils are Very Limited due to depth to saturated zone, frost action, low strength and shrink-swell potential. Biddeford soils are Very Limited due to ponding, depth to saturated zone, frost action, low strength, and shrink-swell potential. Bucksport soils are Very Limited due to ponding, depth to saturated zone, frost action, and low strength. These limitations do not take into account the varying depth of fill over the native soils, however, since none of the observed roadbeds were greater than 48” deep, the native soil characteristics will apply as the trenches will likely be below the depth of the fill.

Ponding is not anticipated to be a limitation due to the collector lines being located below road fill, with the fill being above ponding limits. Limitations due to depth to saturated zone, frost action, low strength and shrink-swell potential can be mitigated by proper engineering design of site features. Three Rivers Solar Power, LLC has contracted with a design engineer, and it is anticipated that they will design site features with these limitations in mind. Other ways to mitigate limitations due to these soil characteristics are additions of granular fill, proper drainage of underground features, and proper above-ground drainage.

Scantic, Biddeford and Bucksport soils are poorly to very poorly drained and are classified as hydric. They are within mapped wetlands on the site. Trenching techniques should take care to avoid underdraining wetlands. In areas adjacent to the roadbed, wetlands are protected by State and Federal law, and may present permitting limitations. Site limitations due to hydric soils can be mitigated by avoiding and minimizing impact to these areas and proper design and layout of site improvements.

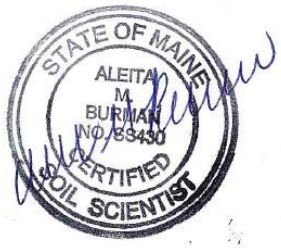
Soil limiting factors relevant to construction activities are also summarized in each of the map unit descriptions attached in Appendix C.

6.0 CLOSING

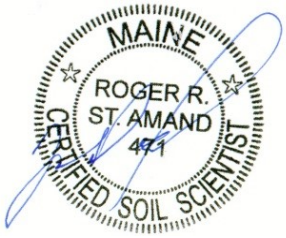
It has been a pleasure to be of assistance to you with this phase of your project. If you have any further questions, or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,

Atlantic Resource Co, LLC



Aleita M. Burman, C.S.S. #SS430



Roger St.Amand, C.S.S.
Certified Soil Scientist #SS471

cc: Kirk Ball, Acheron Engineering Services

Appendix A

Limitations

Appendix A – Limitations

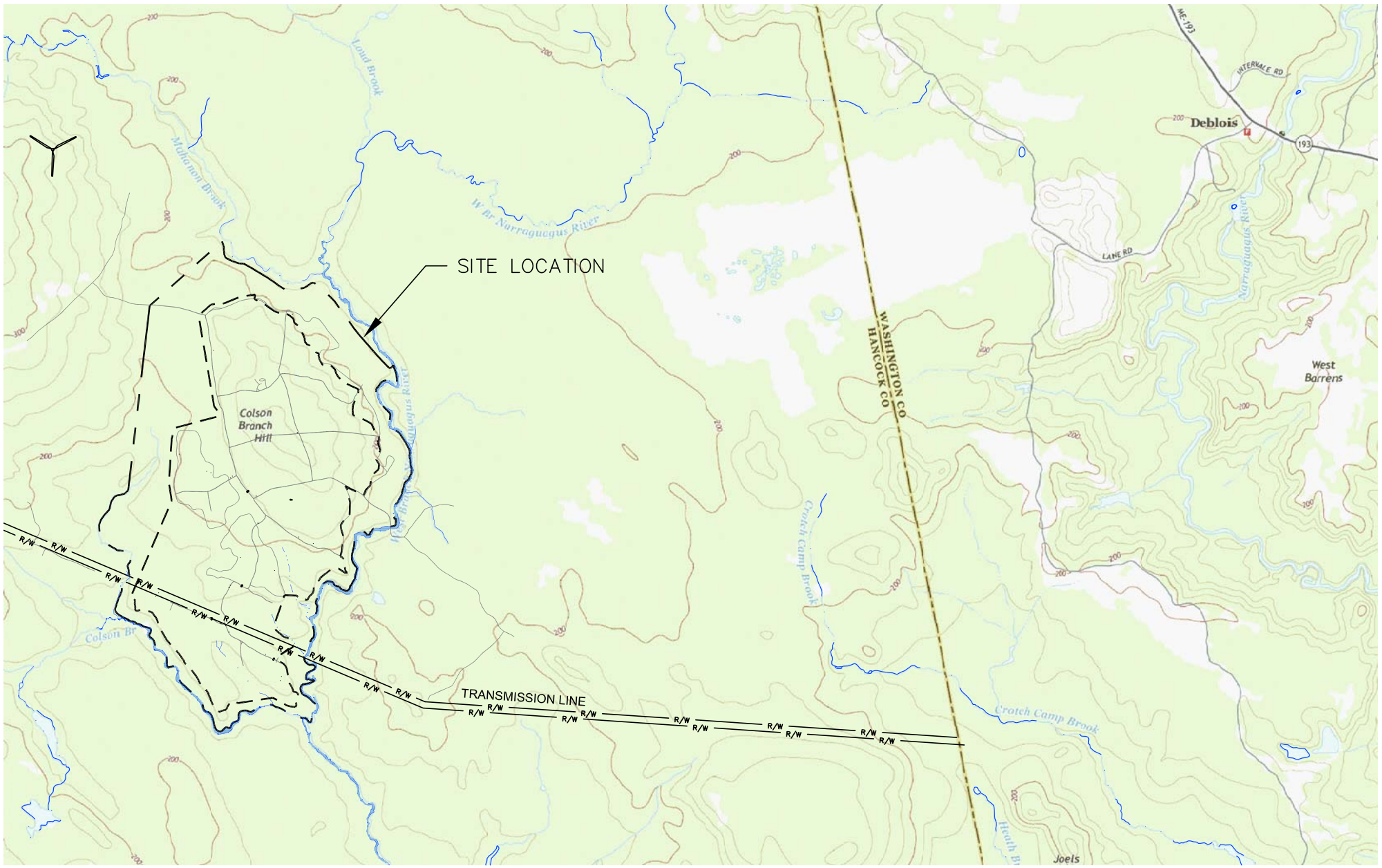
The scope of Atlantic Resource Co, LLC services has been limited to a Class C – Medium High Intensity Soil Survey (solar array areas), Class B – High Intensity Soil Survey (substation area), Class A – High Intensity Soil Survey (laydown yard), and Class L – Linear Soil Survey (collector lines where not within solar array areas) at Three Rivers Solar Power, LLC's Three Rivers Solar project in T16MD, Maine. This Report has been prepared for the exclusive use of Three Rivers Solar Power, LLC. No warranty, expressed or implied, is made. The conclusions made in this report are based on the data obtained from the areas explored at the time of services.

The services were conducted, compiled and reported in general accordance with guidelines described in the National Soil Survey Handbook (1996), the Soil Survey Manual (1993), and the Guidelines for Maine Certified Soil Scientists for Soil Identification and Mapping (2004, revised 2009). Hydric soils were also identified using the Field Indicators of Hydric Soils in the United States (NRCS) and the 2012 (Version 2.0) Supplement to the 1987 Corps of Engineers Wetland Delineation Manual.

The analyses performed during these services and the recommendations presented in this report are based in part upon the data obtained from subsurface explorations made at the site, and published information from the USDA Natural Resources Conservation Service. Variations in subsurface conditions may occur between explorations and may not become evident until construction. If variations in subsurface conditions become evident after submission of this report, it will be necessary to evaluate their nature and to review the recommendations of this report.

APPENDIX B

Site Location Map and Class C – Medium High Intensity, Class B – High Intensity, Class A – High Intensity and Class L – Linear Soil Survey Plans



LEGEND

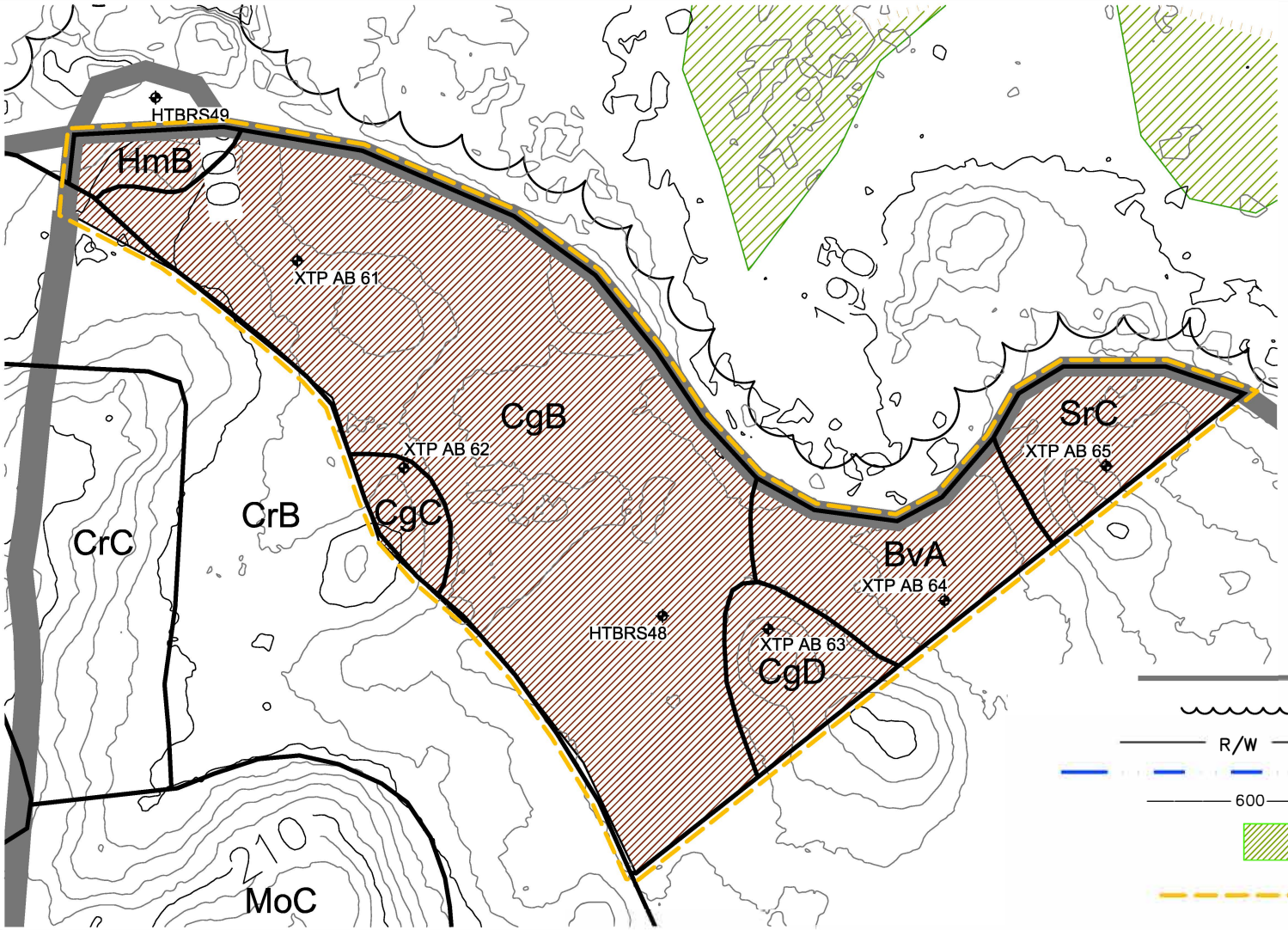
- PROPERTY LINE
- PROJECT BOUNDARY LINE
- EXISTING ROADS
- R/W R/W - TRANSMISSION R.O.W. LINE

Do Not Use for Construction
For Regulatory Review Only

ARC
Atlantic Resource Co, LLC

Site Location Map
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18-006	Scale: 1" = 3000'
Date: 10-3-19	Sheet: B-1



MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

N

LEGEND

- EXISTING ROADS
- TREE LINE
- R/W - TRANSMISSION R.O.W. LINE
- STREAM
- 600 - CONTOUR
- WETLANDS
- LIMIT OF CLASS A - HIGH INTENSITY SOIL SURVEY SERVICES
- SOIL BOUNDARY
- CoA - SOIL LABEL
- EXTPRS58 - TP LABEL
- STAGING AREA

CLASS A - HIGH INTENSITY SOIL SURVEY LEGEND

BvA	- Buxton silt loam, sandy substratum variant, 0-3 percent slopes
CgB	- Croghan loamy fine sand, 1-8 percent slopes
CgC	- Croghan fine sandy loam, 5-15 percent slopes
CgD	- Croghan fine sandy loam, 5-25 percent slopes
HmB	- Hermon sandy loam, 1-8 percent slopes
SrC	- Skerry fine sandy loam, 3-15 percent slopes

0 100 200 300

SCALE: 1" = 100'

Do Not Use for Construction
For Regulatory Review Only

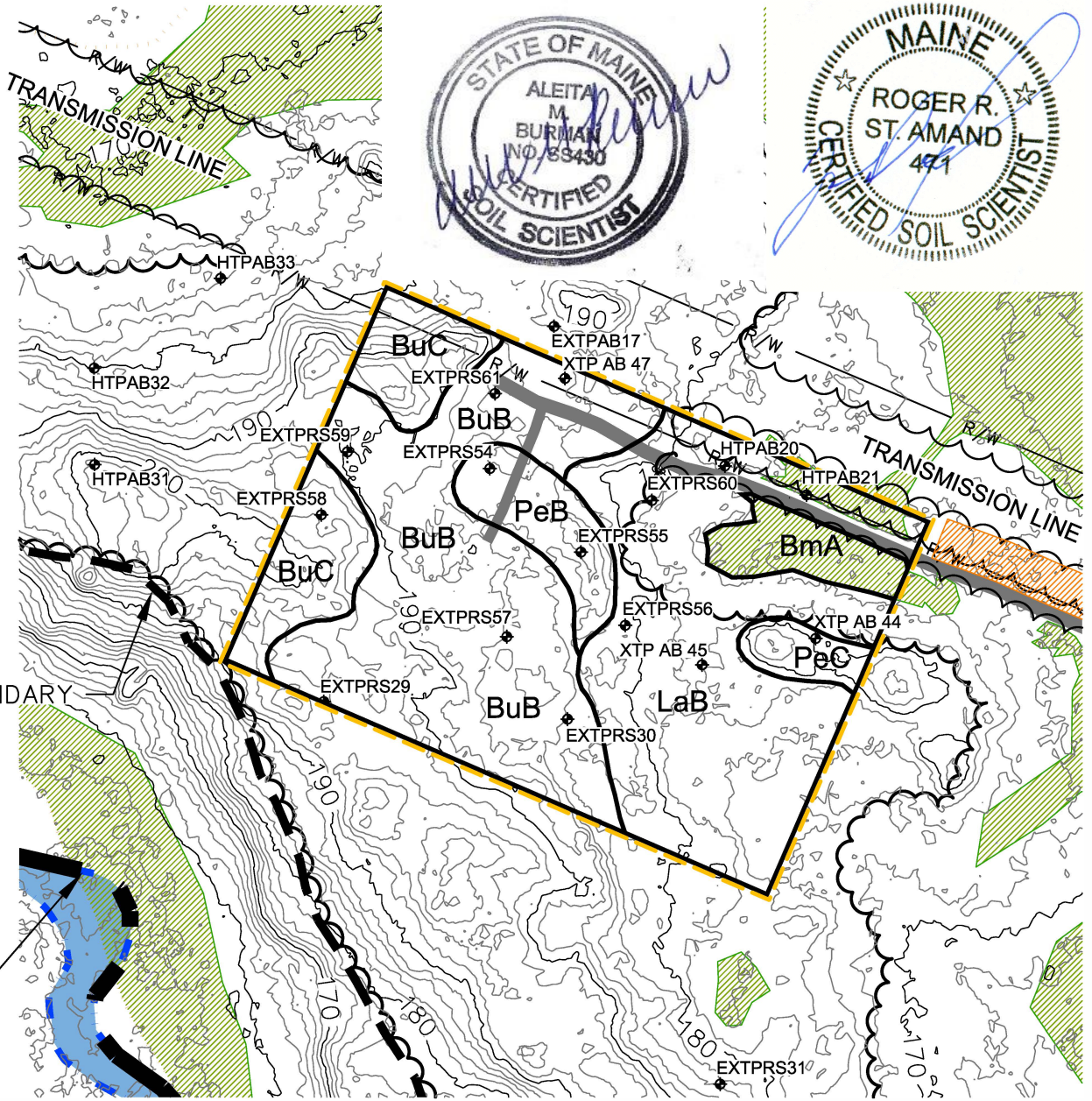
ARC
Atlantic Resource Co, LLC

Class A – High Intensity Soil Survey Plan
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18–006	Scale: 1" = 100'
Date: 10–3–19	Sheet: B–2

LEGEND

- PROPERTY LINE
- PROJECT BOUNDARY LINE
- EXISTING ROADS
- TREE LINE
- TRANSMISSION R.O.W. LINE
- STREAM
- CONTOURS
- HYDRIC SOILS
- WETLANDS
- LIMIT OF CLASS B - HIGH INTENSITY SOIL SURVEY SERVICES
- SOIL BOUNDARY
- SOIL LABEL
- TP LABEL
- BUFFER LOCATIONS



PROJECT BOUNDARY

PROPERTY LINE

CLASS B - HIGH INTENSITY SOIL SURVEY LEGEND

- BmA - Bucksport muck, 0-3 percent slopes
- BuB - Buxton silt loam, 1-8 percent slopes, very bouldery
- BuC - Buxton silt loam, 8-15 percent slopes, very bouldery
- LaB - Lamoine silt loam, 1-8 percent slopes, very bouldery
- PeB - Peru fine sandy loam, 1-8 percent slopes, extremely bouldery
- PeC - Peru fine sandy loam, 3-15 percent slopes, extremely bouldery

STATE OF MAINE
ALEITA M. BURMAN
NO. 3430
CERTIFIED SOIL SCIENTIST

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

0 200 400 600

SCALE: 1" = 200'

Do Not Use for Construction
For Regulatory Review Only

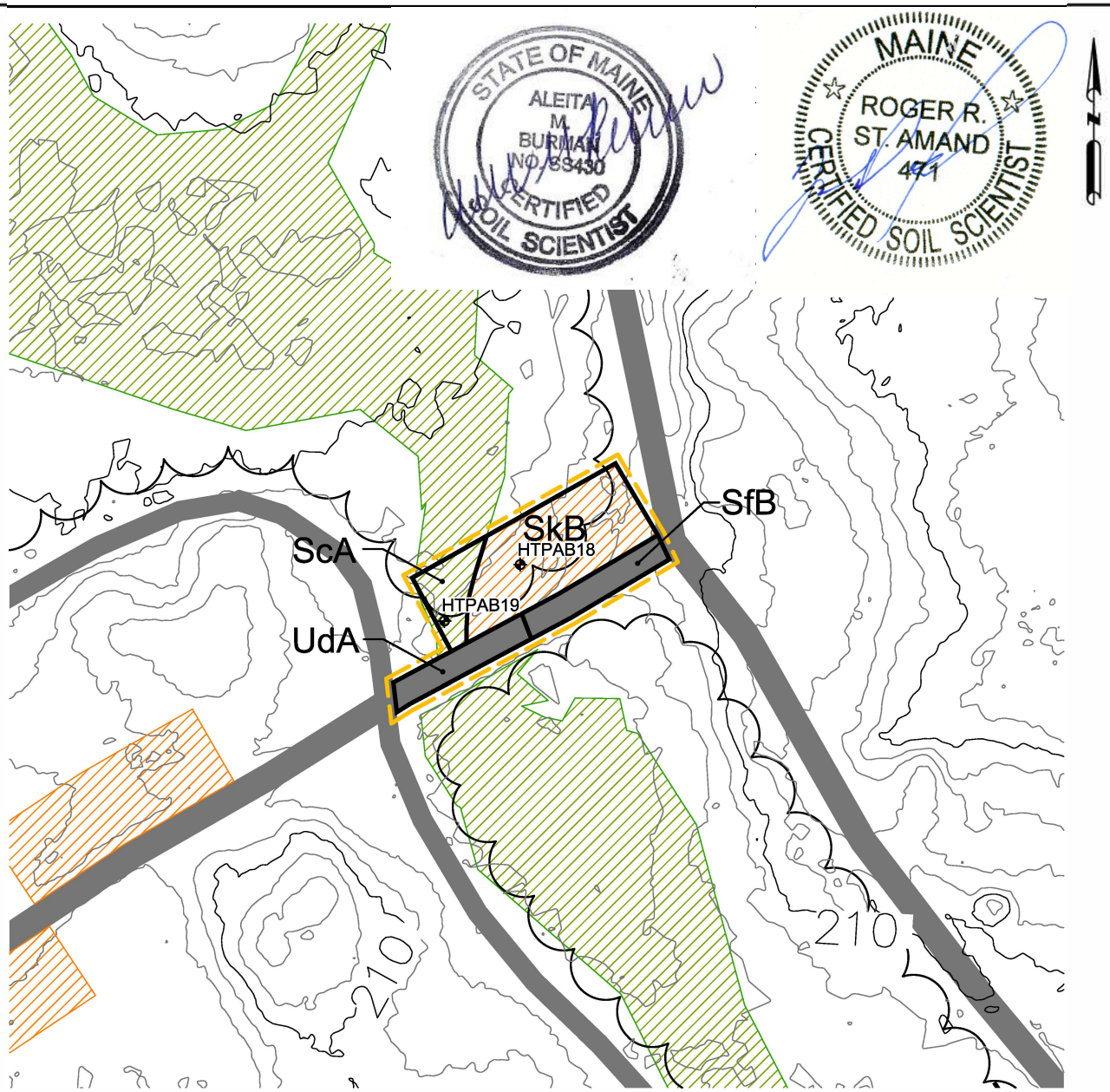
ARC
Atlantic Resource Co, LLC

Class B – High Intensity Soil Survey Plan
Area of Proposed Substation
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18–006	Scale: 1" = 200'
Date: 10–3–19	Sheet: B–3

LEGEND

- EXISTING ROADS
- TREE LINE
- R/W — TRANSMISSION R.O.W. LINE
- STREAM
- 600 — CONTOURS
- HYDRIC SOILS
- WETLANDS
- LIMIT OF CLASS L - LINEAR SOIL SURVEY SERVICES
- SOIL BOUNDARY
- CoA — SOIL LABEL
- EXTPRS58 — TP LABEL
- BUFFER LOCATIONS



CLASS L - LINEAR SOIL SURVEY LEGEND

- ScA - Scantic silt loam, 0-3 percent slopes, very bouldery
- SfB - Skerry fine sandy loam, 1-8 percent slopes, buried phase
- SkB - Skerry fine sandy loam, 1-8 percent slopes, very bouldery
- UdA - Udorthents, 0-3 percent slopes

0 100 200 300

SCALE: 1" = 100'

Do Not Use for Construction
For Regulatory Review Only

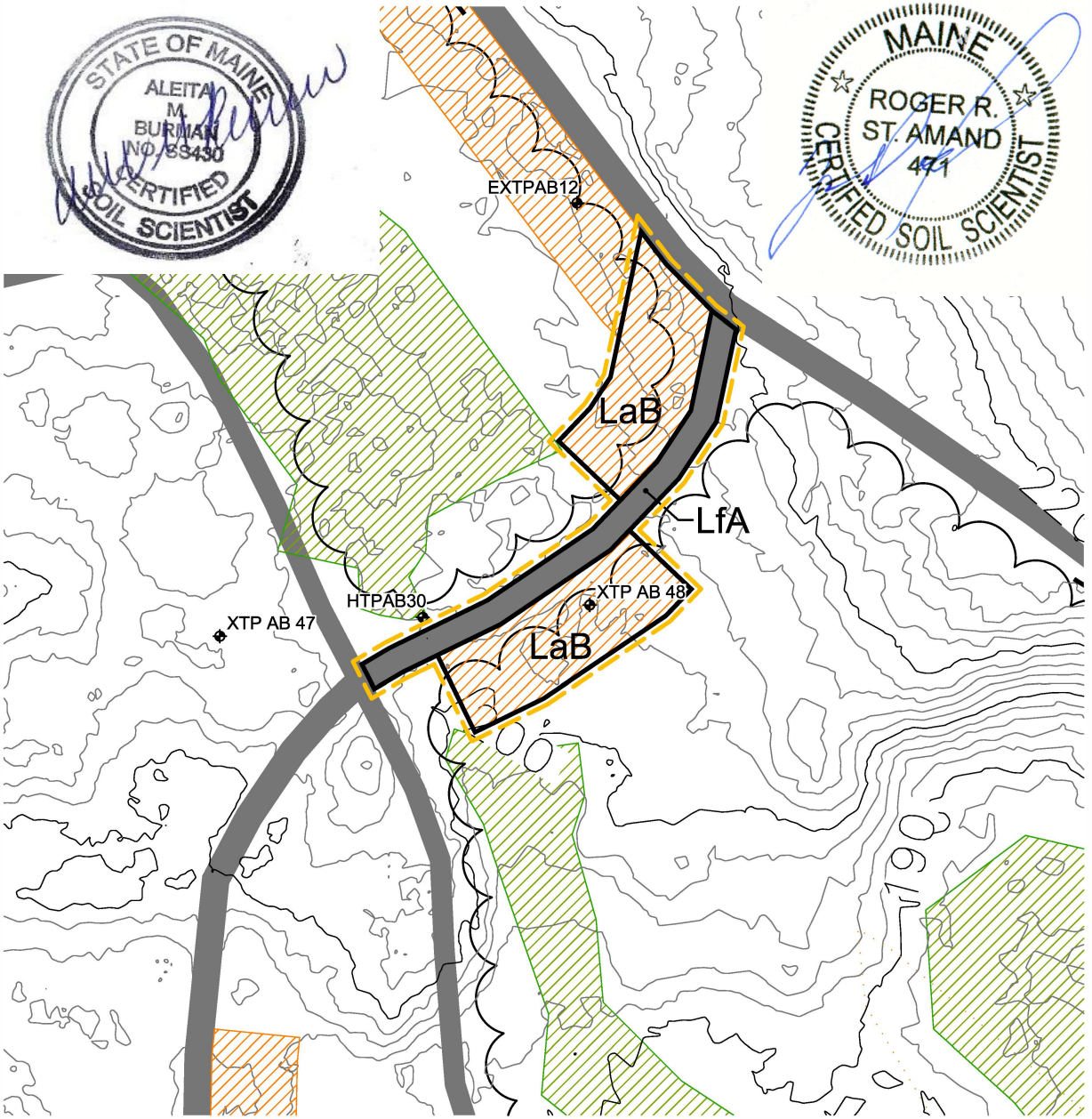
ARC
Atlantic Resource Co, LLC

Class L – Linear Soil Survey Plan
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18–006	Scale: 1" = 100'
Date: 10–3–19	Sheet: B–4

LEGEND

- EXISTING ROADS
- TREE LINE
- R/W — TRANSMISSION R.O.W. LINE
- STREAM
- 600 — CONTOURS
- HYDRIC SOILS
- WETLANDS
- LIMIT OF CLASS L - LINEAR SOIL SURVEY SERVICES
- SOIL BOUNDARY
- CoA — SOIL LABEL
- EXTPRS58 — TP LABEL
- BUFFER LOCATIONS



STATE OF MAINE
ALEITA M. BURMAN
NO. 3430
CERTIFIED SOIL SCIENTIST

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

CLASS L - LINEAR SOIL SURVEY LEGEND

LaB - Lamoine silt loam, 1-8 percent slopes, very bouldery
LfA - Lamoine silt loam, 0-3 percent slopes, filled phase

0 100 200 300

SCALE: 1" = 100'

Do Not Use for Construction
For Regulatory Review Only

ARC
Atlantic Resource Co, LLC

Class L – Linear Soil Survey Plan
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18–006	Scale: 1" = 100'
Date: 10–3–19	Sheet: B–5

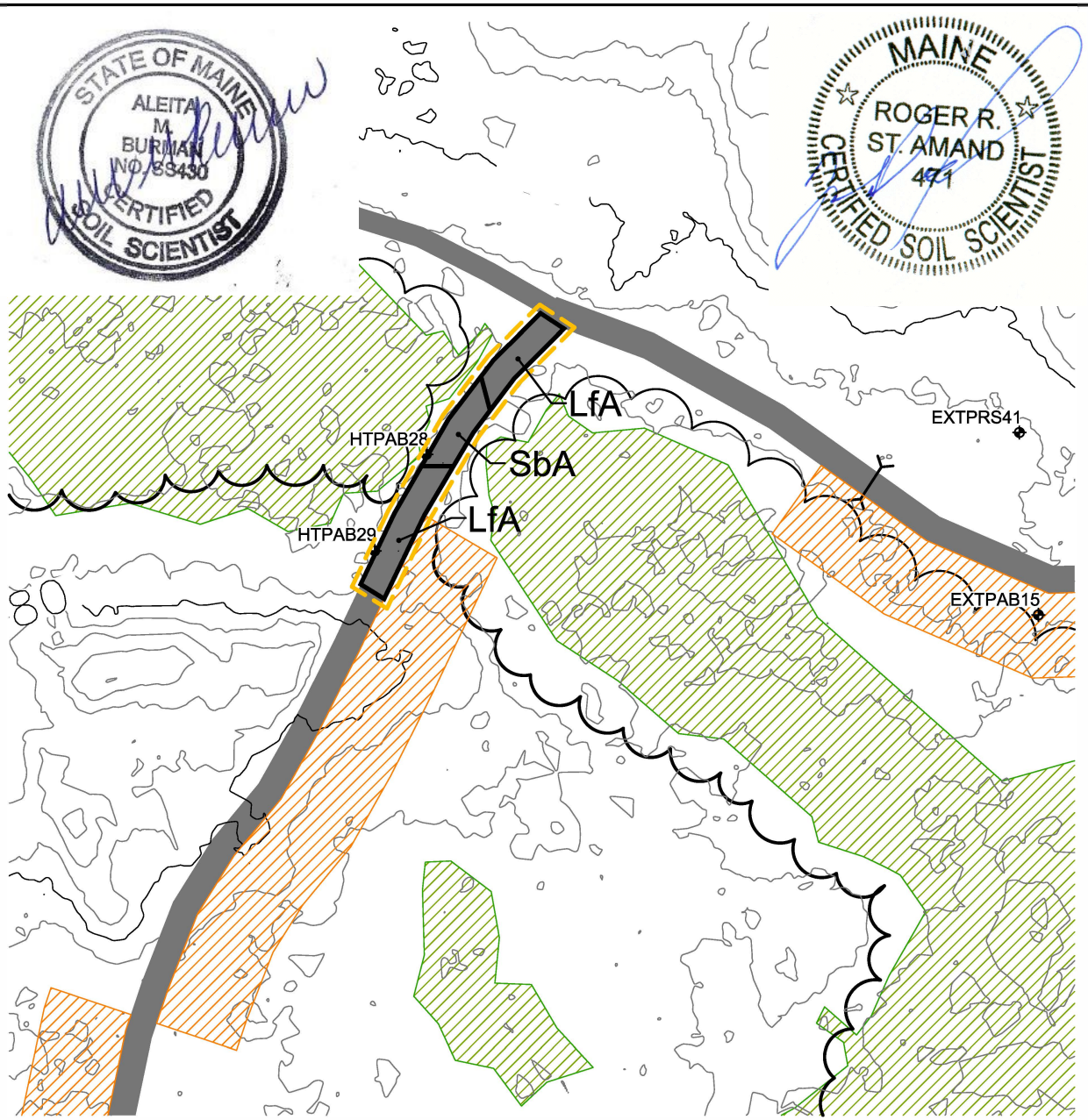
LEGEND

- EXISTING ROADS
- TREE LINE
- R/W — TRANSMISSION R.O.W. LINE
- STREAM
- 600 — CONTOURS
- HYDRIC SOILS
- WETLANDS
- LIMIT OF CLASS L - LINEAR SOIL SURVEY SERVICES
- SOIL BOUNDARY
- CoA — SOIL LABEL
- EXTPRS58 — TP LABEL
- BUFFER LOCATIONS

CLASS L - LINEAR SOIL SURVEY LEGEND

LfA - Lamoine silt loam, 0-3 percent slopes, filled phase

SbA - Scantic silt loam, 0-3 percent slopes, buried phase



0 100 200 300

SCALE: 1" = 100'

Do Not Use for Construction
For Regulatory Review Only

ARC
Atlantic Resource Co, LLC

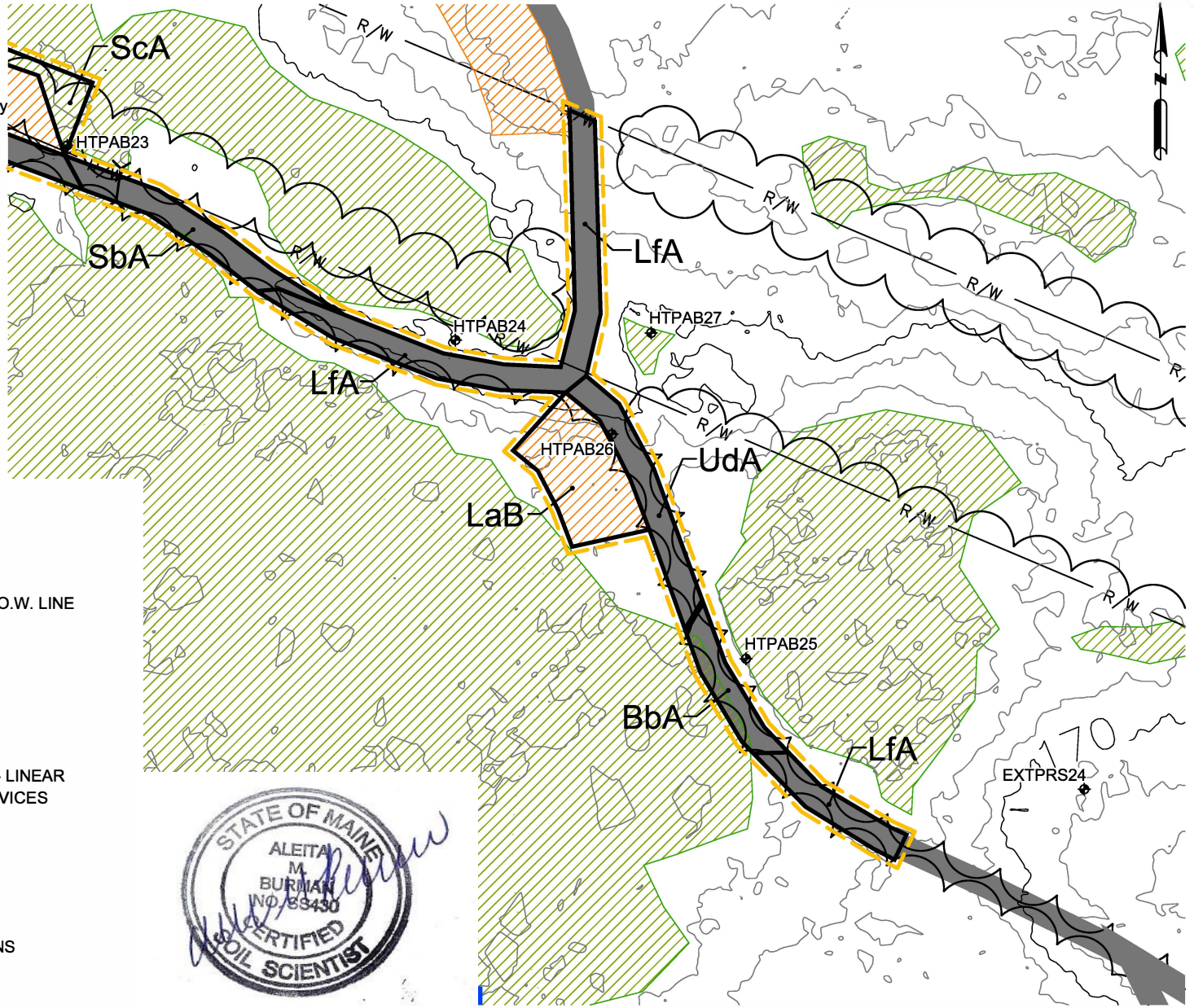
Class L – Linear Soil Survey Plan
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18–006	Scale: 1" = 100'
Date: 10–3–19	Sheet: B–6

CLASS L - LINEAR SOIL SURVEY LEGEND

BbA - Biddeford muck, 0-3 percent slopes, buried phase
LfA - Lamoine silt loam, 0-3 percent slopes, filled phase
LaB - Lamoine silt loam, 1-8 percent slopes, very bouldery
SbA - Scantic silt loam, 0-3 percent slopes, buried phase
ScA - Scantic silt loam, 0-3 percent slopes, very boulery
UdA - Udorthents, 0-3 percent slopes

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST



LEGEND

- EXISTING ROADS
- TREE LINE
- R/W - TRANSMISSION R.O.W. LINE
- STREAM
- 600 - CONTOURS
- HYDRIC SOILS
- WETLANDS
- LIMIT OF CLASS L - LINEAR SOIL SURVEY SERVICES
- SOIL BOUNDARY
- CoA - SOIL LABEL
- EXTPRS58 - TP LABEL
- BUFFER LOCATIONS

0 100 200 300

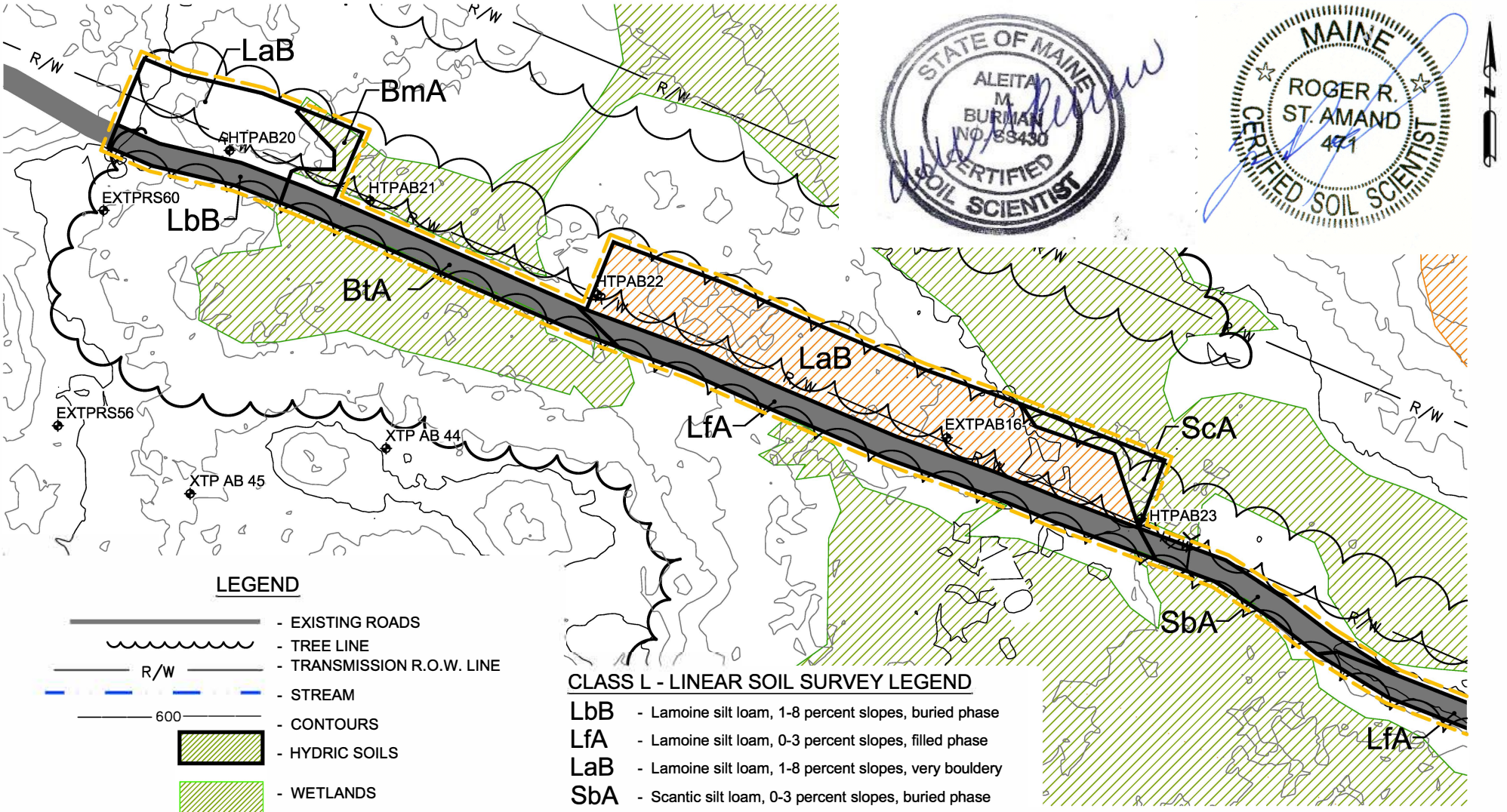
SCALE: 1" = 100'

Do Not Use for Construction
For Regulatory Review Only

ARC
Atlantic Resource Co, LLC

Class L – Linear Soil Survey Plan
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18–006	Scale: 1" = 100'
Date: 10–3–19	Sheet: B–7



STATE OF MAINE
ALEITA M. BURMAN
NO. 3430
CERTIFIED SOIL SCIENTIST

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

LEGEND

- EXISTING ROADS
- TREE LINE
- R/W - TRANSMISSION R.O.W. LINE
- STREAM
- 600 - CONTOURS
- HYDRIC SOILS
- WETLANDS
- LIMIT OF CLASS L - LINEAR SOIL SURVEY SERVICES
- SOIL BOUNDARY
- CoA - SOIL LABEL
- EXTPRS58 - TP LABEL
- BUFFER LOCATIONS

CLASS L - LINEAR SOIL SURVEY LEGEND

LbB	- Lamoine silt loam, 1-8 percent slopes, buried phase
LfA	- Lamoine silt loam, 0-3 percent slopes, filled phase
LaB	- Lamoine silt loam, 1-8 percent slopes, very bouldery
SbA	- Scantic silt loam, 0-3 percent slopes, buried phase
ScA	- Scantic silt loam, 0-3 percent slopes, very boulery
BmA	- Bucksport muck, 0-3 percent slopes
BtA	- Bucksport muck, 0-3 percent slopes, buried phase

0 100 200 300

SCALE: 1" = 100'

Do Not Use for Construction
For Regulatory Review Only

ARC
Atlantic Resource Co, LLC

Class L – Linear Soil Survey Plan
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18–006	Scale: 1" = 100'
Date: 10–3–19	Sheet: B–8

APPENDIX C

Soil Survey Legend and Soil Map Unit Descriptions

Class L – Linear Soil Survey Legend

BbA Biddeford muck, 0-3 percent slopes, buried phase
BmA Bucksport muck, 0-3 percent slopes
BtA Bucksport muck, 0-3 percent slopes, buried phase
LaB Lamoine silt loam, 1-8 percent slopes, very bouldery
LbB Lamoine silt loam, 1-8 percent slopes, buried phase
LfA Lamoine silt loam, 0-3 percent slopes, filled phase
SbA Scantic silt loam, 0-3 percent slopes, buried phase
ScA Scantic silt loam, 0-3 percent slopes, very bouldery
SfB Skerry fine sandy loam, 1-8 percent slopes, buried phase
SkB Skerry fine sandy loam, 1-8 percent slopes, very bouldery
UdA Udorthents, 0-3 percent slopes

Class A – High Intensity Soil Survey Legend

BvA Buxton silt loam, sandy substratum variant, 0-3 percent slopes
CgB Croghan loamy fine sand, 1-8 percent slopes
CgC Croghan fine sandy loam, 5-15 percent slopes
CgD Croghan fine sandy loam, 5-25 percent slopes
HmB Hermon sandy loam, 1-8 percent slopes
SrC Skerry fine sandy loam, 3-15 percent slopes

Class B – High Intensity Soil Survey Legend

BmA Bucksport muck, 0-3 percent slopes
BuB Buxton silt loam, 1-8 percent slopes, very bouldery
BuC Buxton silt loam, 8-15 percent slopes, very bouldery
LaB Lamoine silt loam, 1-8 percent slopes, very bouldery
PeB Peru fine sandy loam, 1-8 percent slopes, extremely bouldery
PeC Peru fine sandy loam, 3-15 percent slopes, extremely bouldery

Class C – Medium High Intensity Soil Survey Legend

BrB	Brayton mucky silt loam, 0-5 percent slopes, very stony
BuB	Buxton silt loam, 1-8 percent slopes, very bouldery
BuC	Buxton silt loam, 8-15 percent slopes, very bouldery
CoB	Colonel stony sandy loam, 1-8 percent slopes, very bouldery
CrB	Croghan loamy fine sand, 1-8 percent slopes, very bouldery
CrC	Croghan fine sandy loam, 8-15 percent slopes, very bouldery
CrD	Croghan loamy fine sand, 15-25 percent slopes, very bouldery
HeB	Hermon sandy loam, 1-8 percent slopes, very bouldery
LaB	Lamoine silt loam, 1-8 percent slopes, very bouldery
MoC	Monadnock fine sandy loam, 5-15 percent slopes, very bouldery
MoD	Monadnock very fine sandy loam, 15-25 percent slopes, very bouldery
MPB	Monadnock-Peru Complex, 1-8 percent slopes, very bouldery
MPC	Monadnock-Peru Complex, 8-15 percent slopes, very bouldery
MPD	Monadnock-Peru Complex, 15-25 percent slopes, very bouldery
PeA	Peru fine sandy loam, 0-3 percent slopes, extremely bouldery
PeB	Peru sandy loam, 1-8 percent slopes, extremely bouldery
PeC	Peru sandy loam, 8-15 percent slopes, extremely bouldery
PeD	Peru sandy loam, 15-25 percent slopes, extremely bouldery
RLB	Roundabout-Lamoine Complex, 1-8 percent slopes, very bouldery
ScA	Scantic silt loam, 0-3 percent slopes, very bouldery
SkB	Skerry fine sandy loam, 1-8 percent slopes, very bouldery
SkC	Skerry cobbley fine sandy loam, 8-15 percent slopes, very bouldery
SkD	Skerry fine sandy loam, 15-25 percent slopes, very bouldery

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **BIDDEFORD MUCK, 0-3 PERCENT SLOPES, BURIED PHASE**
Map Unit Symbol: BbA
Classification: Fine, illitic, nonacid, frigid Histic Humaquepts

SETTING

Parent Material: Buried Glacio-marine and Glacio-Lacustrine Sediments
Landform: Roads through Depressions
Landscape Position: Lowest topographic positions
Slope Gradient Range: A: 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Very Poorly Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at HTP-AB-25. The surface is covered with 36 inches of extremely gravelly loamy sand and gravelly fine sandy loam roadbed fill with stones and cobbles. Below the fill is 6 inches of fibric organic matter underlain by18 inches of sapric organic matter. The subsoil is at least 1 inch of mottled firm olive gray silty clay loam.

INCLUSIONS

Similar Soils: Bucksport
Dissimilar Soils: Scantic, Lamoine, Udorthents
Similar and dissimilar inclusions include named and adjacent filled phase soils

WATER RELATED INFORMATION

Hydrologic Soil Group: D
Surface Run-off: Negligible to Low
KSat (NRCS estimated): High or Moderately High in the organic surface layer, and Moderately Low or Low in the subsoil and substratum, below the roadbed
Flooding Potential: Seasonal Ponding

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Biddeford soils are Very Limited for site development and roads due to ponding, depth to saturated zone, frost action, low strength, and shrink-swell potential. Limitations due to these characteristics can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. This map unit is hydric and in a mapped wetland. Wetlands have permitting limitations.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **BRAYTON FINE SANDY LOAM, 0-5 PERCENT SLOPES, VERY STONY**
Map Unit Symbol: BrB
Classification: Loamy, mixed, active, nonacid, frigid, shallow Aeric Endoaquepts

SETTING

Parent Material: Glacial Till
Landform: Toeslopes and Depressions
Landscape Position: Lowest topographic positions in glacial till sediments
Slope Gradient Range: B: 0-5%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Poorly Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at HTP-AB-43. The surface is covered with 7 inches of decomposed organic matter. The subsoil is 4 inches of gray mucky silt loam underlain by 14 inches of mottled, firm, olive gray stony very fine sandy loam. The subsoil is greater than 18 inches of mottled, firm, olive gray very fine sandy loam.

INCLUSIONS

Similar Soils: Scantic, Monarda
Dissimilar Soils: Colonel, Peru, Monadnock, Skerry, Lamoine, Roundabout
Similar and Dissimilar soil inclusions include other slope classes, coarse fragment percentage and surface stoniness classes of the named soil and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: D
Surface Run-off: Negligible to Low
KSat (NRCS estimated): Moderately High or High in the solum and Moderately Low or Moderately High in the dense substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Brayton soils are Very Limited for site development and roads due to depth to saturated zone and frost action. Limitations due to shallow depth to saturated zone and frost action can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. The very stony surface can be limiting for design and construction. Limitations due to stoniness can be mitigated by removing stones. This map unit is hydric and in a mapped wetland. Wetlands have permitting limitations.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **BUCKSPORT MUCK, 0-3 PERCENT SLOPES**
Map Unit Symbol: BmA
Classification: Euic, frigid Typic Haplosaprists

SETTING

Parent Material: Organic Sediments
Landform: Depressions
Landscape Position: Lowest topographic positions
Slope Gradient Range: A: 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Very Poorly Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described under road fill at HTP-AB-21. Below the fill is greater than 36 inches of sapric organic matter.

INCLUSIONS

Similar Soils: Biddeford
Dissimilar Soils: Scantic, Lamoine, Roundabout, Colonel, Brayton, Monarda
Similar and dissimilar inclusions include named and adjacent filled phase soils and Udorthents

WATER RELATED INFORMATION

Hydrologic Soil Group: D
Surface Run-off: Negligible to Low
KSat (NRCS estimated): Moderately High or High below the roadbed
Flooding Potential: Seasonal Ponding

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Bucksport soils are Very Limited for site development and roads due to ponding, depth to saturated zone, frost action, and low strength. Limitations due to these characteristics can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. This map unit is hydric and in a mapped wetland. Wetlands have permitting limitations.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **BUCKSPORT MUCK, 0-3 PERCENT SLOPES, BURIED PHASE**
Map Unit Symbol: BtA
Classification: Euic, frigid Typic Haplosaprists

SETTING

Parent Material: Buried Organic Sediments
Landform: Roads through Depressions
Landscape Position: Lowest topographic positions
Slope Gradient Range: A: 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Very Poorly Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at HTP-AB-21. The surface is covered with 34 inches of extremely gravelly loamy sand and gravelly fine sandy loam roadbed fill with stones and cobbles. Below the fill is greater than 36 inches of sapric organic matter.

INCLUSIONS

Similar Soils: Biddeford
Dissimilar Soils: Scantic, Lamoine, Roundabout, Colonel, Brayton, Monarda
Similar and dissimilar inclusions include named and adjacent filled phase soils and Udorthents

WATER RELATED INFORMATION

Hydrologic Soil Group: D
Surface Run-off: Negligible to Low
KSat (NRCS estimated): Moderately High or High below the roadbed
Flooding Potential: Seasonal Ponding

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Bucksport soils are Very Limited for site development and roads due to ponding, depth to saturated zone, frost action, and low strength. Limitations due to these characteristics can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. This map unit is hydric and in a mapped wetland. Wetlands have permitting limitations.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **BUXTON SILT LOAM, 1-8 PERCENT SLOPES, VERY BOULDERY**
Map Unit Symbol: BuB
Classification: Fine, illitic, frigid Aquic Dystric Eutrudepts

SETTING

Parent Material: Glacio-Marine and Glacio-Lacustrine Sediments
Landform: Sideslopes
Landscape Position: Mid topographic positions in glaciomarine/lacustine sediments
Slope Gradient Range: B: 1-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP- RS-59. The surface is 10 inches of dark olive brown silt loam. The subsoil is 9 inches of light olive brown silt loam underlain by 4 inches of mottled olive brown silt loam underlain by 13 inches of mottled, very firm dark olive brown silt loam. The substratum is greater than 35 inches of very firm, mottled, olive silty clay loam.

INCLUSIONS

Similar Soils: Lamoine, Roundabout
Dissimilar Soils: Scantic, Peru, Monadnock, Skerry, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slope classes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: C/D
Surface Run-off: Low to Medium
KSat (NRCS estimated): Moderately High in the surface horizon and the upper part of the subsoil, and Low to Moderately Low to low in the lower part of the subsoil and in the substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Buxton soils are Very Limited for site development and roads due to depth to saturated zone and shrink-swell potential. Limitations due to these soil characteristics can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. The very bouldery surface can be limiting for design and construction.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **BUXTON SILT LOAM, 8-15 PERCENT SLOPES, VERY BOULDERY**
Map Unit Symbol: BuC
Classification: Fine, illitic, frigid Aquic Dystric Eutrudepts

SETTING

Parent Material: Glacio-Marine and Glacio-Lacustrine Sediments
Landform: Sideslopes
Landscape Position: Mid topographic positions in glaciomarine/lacustine sediments
Slope Gradient Range: C: 8-15%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP- RS-58. The surface is 8 inches of dark brown silt loam. The subsoil is 8 inches of dark olive brown silt loam underlain by 12 inches of olive brown silt loam underlain by 5 inches of mottled, firm olive brown silt loam. The substratum is greater than 48 inches of firm, mottled, olive silty clay loam.

INCLUSIONS

Similar Soils: Lamoine, Roundabout
Dissimilar Soils: Scantic, Peru, Monadnock, Skerry, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slope classes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: C/D
Surface Run-off: Medium to High
KSat (NRCS estimated): Moderately High in the surface horizon and the upper part of the subsoil, and Low to Moderately Low to low in the lower part of the subsoil and in the substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Buxton soils are Very Limited for site development and roads due to depth to saturated zone and shrink-swell potential. Limitations due to these soil characteristics can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders. C slope soils are Somewhat Limited due to slope. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, erosion control measures and proper feature design.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **BUXTON SILT LOAM, SANDY SUBSTRATUM VARIANT, 0-3 PERCENT SLOPES**
Map Unit Symbol: BvA
Classification: Fine, illitic, frigid Aquic Dystric Eutrudepts

SETTING

Parent Material: Glacio-Marine and Glacio-Lacustrine over Glacio-Fluvial Sediments
Landform: Toeslopes
Landscape Position: Lower topographic positions in glaciomarine/lacustine sediments
Slope Gradient Range: A: 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP- AB-64. The surface is covered with 2 inches of partially decomposed organic matter. The subsoil is 4 inches of dark yellowish brown silt loam underlain by 5 inches of olive brown silt loam underlain by 8 inches of olive brown silt loam underlain by 21 inches of mottled, firm olive brown silt loam. The substratum is greater than 22 inches of loose, olive brown sand.

INCLUSIONS

Similar Soils: Buxton, Lamoine, Roundabout
Dissimilar Soils: Scantic, Peru, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slope classes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: C/D
Surface Run-off: Low to Medium
KSat (NRCS estimated): Moderately High in the surface horizon and the upper part of the subsoil, and Low to Moderately Low to low in the lower part of the subsoil and in the substratum (sandy substratum is unknown)
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Buxton soils are Very Limited for site development and roads due to depth to saturated zone and shrink-swell potential. Limitations due to these soil characteristics can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **CROGHAN FINE SANDY LOAM, 1-8 PERCENT SLOPES**
Map Unit Symbol: CgB
Classification: Sandy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Glacio-Fluvial Sediments
Landform: Sideslopes
Landscape Position: Mid to lower topographic positions in glaciofluvial sediments
Slope Gradient Range: B: 1-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-AB-61. The surface is covered with 2 inches of partially decomposed organic matter. The subsurface is 2 inches of light brownish gray fine sandy loam. The subsoil is 2 inches of dark brown fine sandy loam underlain by 13 inches of dark yellowish brown fine sandy loam underlain by 14 inches of olive brown loamy fine sand. The substratum is at least 29 inches of mottled loamy very fine sand to fine sand.

INCLUSIONS

Similar Soils:
Dissimilar Soils: Hermon, Monadnock, Peru, Skerry, Lamoine, Scantic
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: A
Surface Run-off: Very Low to Medium
KSat (NRCS estimated): High or Very High in throughout the mineral soil below the roadbed
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Croghan soils are Very Limited for site development and roads due to depth to saturated zone. Limitations due to depth to saturated zone can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **CROGHAN FINE SANDY LOAM, 5-15 PERCENT SLOPES**
Map Unit Symbol: CgC
Classification: Sandy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Glacio-Fluvial Sediments
Landform: Sideslopes
Landscape Position: Mid to lower topographic positions in glaciofluvial sediments
Slope Gradient Range: C: 5-15%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-AB-62. The surface is covered with 2 inches of partially decomposed organic matter. The surface layer is 10 inches of very dark grayish brown very gravelly loamy sand. The subsoil is 14 inches of dark yellowish brown very gravelly coarse sand. The substratum is at least 34 inches of mottled olive brown very gravelly coarse sand.

INCLUSIONS

Similar Soils:
Dissimilar Soils: Hermon, Monadnock, Peru, Skerry, Lamoine, Scantic
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: A
Surface Run-off: Medium to High
KSat (NRCS estimated): High or Very High in throughout the mineral soil below the roadbed
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Croghan soils are Very Limited for site development and roads due to depth to saturated zone. Limitations due to depth to saturated zone can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. C slope soils are Somewhat Limited due to slope. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, erosion control measures and proper feature design.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **CROGHAN FINE SANDY LOAM, 5-25 PERCENT SLOPES**
Map Unit Symbol: CgD
Classification: Sandy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Glacio-Fluvial Sediments
Landform: Sideslopes
Landscape Position: Mid to lower topographic positions in glaciofluvial sediments
Slope Gradient Range: D: 5-25%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-AB-63. The surface is covered with 3 inches of partially decomposed organic matter. The subsoil is 2 inches of dark brown fine sandy loam underlain by 12 inches of dark yellowish brown very gravelly fine sandy loam underlain by 19 inches of olive brown gravelly loamy coarse sand. The substratum is at least 27 inches of olive brown sand.

INCLUSIONS

Similar Soils:
Dissimilar Soils: Hermon, Monadnock, Peru, Skerry, Lamoine, Scantic
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: A
Surface Run-off: Medium to Very High
KSat (NRCS estimated): High or Very High in throughout the mineral soil below the roadbed
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Croghan soils are Very Limited for site development and roads due to depth to saturated zone. Limitations due to depth to saturated zone can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. D slope soils are Very Limited due to slope. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, erosion control measures and proper feature design.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **COLONEL STONY SANDY LOAM, 1-8 PERCENT SLOPES, VERY BOULDERY**
Map Unit Symbol: CoB
Classification: Loamy, isotic, frigid, shallow Aquic Haplorthods

SETTING

Parent Material: Glacial Till
Landform: Toeslopes
Landscape Position: Lower topographic positions in glacial till sediments
Slope Gradient Range: B: 1-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat Poorly Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP- RS-21. The surface is covered with 6 inches of decomposed and partially decomposed organic matter. The subsurface is 3 inches of dark gray stony sandy loam. The subsoil is 4 inches of reddish brown sandy loam underlain by 6 inches of brown cobbley sandy loam underlain by 8 inches of mottled, light olive brown fine sandy loam. The substratum is 18 inches of rotten rock underlain by greater than 30 inches of mottled, olive brown gravelly sandy loam.

INCLUSIONS

Similar Soils: Peru, Skerry
Dissimilar Soils: Monadnock, Brayton, Scantic, Lamoine, Buxton, Croghan, Roundabout
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: D
Surface Run-off: Low to Medium
KSat (NRCS estimated): Moderately High or High in the solum and Low to Moderately High in the dense substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Colonel soils are Very Limited for site development and roads due to depth to saturated zone and frost action. Limitations due to shallow depth to saturated zone and frost action can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **CROGHAN LOAMY FINE SAND, 1-8 PERCENT SLOPES, VERY BOULDERY**
Map Unit Symbol: CrB
Classification: Sandy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Glacio-Fluvial Sediments
Landform: Sideslopes
Landscape Position: Mid topographic positions in glaciofluvial sediments
Slope Gradient Range: B: 1-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-AJ-5. The subsoil is 6 inches of brown loamy fine sand underlain by 30 inches of yellowish brown loamy fine sand underlain by 10 inches of mottled, yellowish brown silt loam, underlain by 6 inches of mottled, light olive brown loamy fine sand. The substratum is 7 inches of mottled, olive brown, loose, very gravelly loamy sand underlain by greater than 13 inches of mottled, loose, olive brown extremely gravelly sand.

INCLUSIONS

Similar Soils:
Dissimilar Soils: Peru, Skerry, Monadnock, Colonel, Brayton, Buxton, Lamoine, Scantic
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: A
Surface Run-off: Low to Medium
KSat (NRCS estimated): High or Very High in throughout the mineral soil
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Croghan soils are Very Limited for site development and roads due to depth to saturated zone. Limitations due to depth to saturated zone can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **CROGHAN LOAMY FINE SAND, 8-15 PERCENT SLOPES, VERY BOULDERY**
Map Unit Symbol: CrC
Classification: Sandy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Glacio-Fluvial Sediments
Landform: Sideslopes
Landscape Position: Mid topographic positions in glaciofluvial sediments
Slope Gradient Range: C 8-15%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60"
Typical Profile Description: A typical pedon for this soil was described at XTP-AJ-4. The surface is covered with 2 inches of partially decomposed organic matter. The subsoil is 4 inches of yellowish red loam underlain by 9 inches of brown loamy fine sand underlain by 16 inches of olive brown loamy fine sand, underlain by 6 inches of mottled, yellowish brown loamy fine sand. The substratum is 12 inches of mottled, olive brown, loamy fine sand with fine sand layers, underlain 8 inches of mottled, light yellowish brown loamy fine sand, underlain by greater than 25 inches of mottled, loose, light brownish gray fine sand.

INCLUSIONS

Similar Soils:
Dissimilar Soils: Peru, Skerry, Monadnock, Colonel, Brayton, Buxton, Lamoine, Scantic
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: A
Surface Run-off: Medium to High
KSat (NRCS estimated): High or Very High in throughout the mineral soil
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Croghan soils are Very Limited for site development and roads due to depth to saturated zone. Limitations due to depth to saturated zone can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. C slope soils are Somewhat Limited due to slope. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, erosion control measures and proper feature design. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: CROGHAN FINE SANDY LOAM, 15-25 PERCENT SLOPES, VERY BOULDERY
Map Unit Symbol: CrD
Classification: Sandy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Glacio-Fluvial Sediments
Landform: Steep Sideslopes
Landscape Position: Mid topographic positions in glaciofluvial sediments
Slope Gradient Range: D 15-25%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was not described, however, a similar test pit was described at XTP-AJ-4. The surface is covered with 2 inches of partially decomposed organic matter. The subsoil is 4 inches of yellowish red loam underlain by 9 inches of brown loamy fine sand underlain by 16 inches of olive brown loamy fine sand, underlain by 6 inches of mottled, yellowish brown loamy fine sand. The substratum is 12 inches of mottled, olive brown, loamy fine sand with fine sand layers, underlain 8 inches of mottled, light yellowish brown loamy fine sand, underlain by greater than 25 inches of mottled, loose, light brownish gray fine sand.

INCLUSIONS

Similar Soils:
Dissimilar Soils: Peru, Skerry, Monadnock, Colonel, Brayton, Buxton, Lamoine, Scantic
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: A
Surface Run-off: High to Very High
KSat (NRCS estimated): High or Very High in throughout the mineral soil
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Croghan soils are Very Limited for site development and roads due to depth to saturated zone. Limitations due to depth to saturated zone can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. D slope soils are Very Limited due to slope. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, erosion control measures and proper feature design. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **HERMON SANDY LOAM, 1-8 PERCENT SLOPES, VERY BOULDERY**
Map Unit Symbol: HeB
Classification: Sandy-skeletal, isotic, frigid Typic Haplorthods

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper topographic positions in glacial till sediments
Slope Gradient Range: B: 1-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat Excessively Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-RS-18. The subsurface is 6 inches of grayish brown sandy loam. The subsoil is 2 inches of dark reddish brown sandy loam underlain by 5 inches of strong brown sandy loam underlain by 7 inches of light olive brown loamy fine sand underlain by 10 inches of light olive brown loamy very fine sand. The substratum is greater than 60 inches of light olive brown gravelly fine sand.

INCLUSIONS

Similar Soils: Peru, Skerry, Monadnock
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: A
Surface Run-off: Low to Medium
KSat (NRCS estimated): High or Very High throughout the mineral soil
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Hermon soils are Somewhat Limited for site development and roads due to large stones. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **HERMON SANDY LOAM, 1-8 PERCENT SLOPES**
Map Unit Symbol: HmB
Classification: Sandy-skeletal, isotic, frigid Typic Haplorthods

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper topographic positions in glacial till sediments
Slope Gradient Range: B: 1-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat Excessively Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-RS-49. The surface of this test pit was removed/disturbed. The observed undisturbed subsoil is 9 inches of olive brown coarse sandy loam. The substratum is greater than 48 inches of olive brown coarse gravelly loamy sand.

INCLUSIONS

Similar Soils: Peru, Skerry, Monadnock
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: A
Surface Run-off: Low to Medium
KSat (NRCS estimated): High or Very High throughout the mineral soil
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Hermon soils are Somewhat Limited for site development and roads due to large stones. The large surface boulders have been mostly removed from this area.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **LAMOINE SILT LOAM, 1-8 PERCENT SLOPES, VERY BOULDERY**
Map Unit Symbol: LaB
Classification: Fine, illitic, nonacid, frigid Aeric Epiaquepts

SETTING

Parent Material: Glacio-Marine and Glacio-Lacustrine Sediments
Landform: Baseslopes and Toeslopes
Landscape Position: Lower topographic positions in glaciomarine/lacustine sediments
Slope Gradient Range: B: 1-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat Poorly Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP- RS-24. The surface is covered with 3 inches of decomposed organic matter. The surface is 2 inches of dark brown silt loam. The subsoil is 7 inches of dark yellowish brown silt loam underlain by 8 inches of mottled light olive brown silt loam underlain by 11 inches of mottled light olive brown silt loam. The substratum is greater than 52 inches of very firm, mottled, olive silty clay loam.

INCLUSIONS

Similar Soils: Buxton, Roundabout
Dissimilar Soils: Scantic, Monadnock, Peru, Skerry, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: D
Surface Run-off: Low to Medium
KSat (NRCS estimated): Moderately High in the surface and Moderately Low to Moderately High in remainder of the solum, and Low to Moderately Low in the substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Lamoine soils are Very Limited for site development and roads due to depth to saturated zone, frost action, low strength and shrink-swell potential. Limitations due to these soil characteristics can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **LAMOINE SILT LOAM, 1-8 PERCENT SLOPES, BURIED**
Map Unit Symbol: LbB
Classification: Fine, illitic, nonacid, frigid Aeric Epiaquepts

SETTING

Parent Material: Buried Glacio-Marine and Glacio-Lacustrine Sediments
Landform: Roads through Baseslopes and Toeslopes
Landscape Position: Lower topographic positions in glaciomarine/lacustine sediments
Slope Gradient Range: B: 1-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat Poorly Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at HTP-AB-20. The surface is covered with 34 inches of extremely gravelly loamy sand and gravelly fine sandy loam roadbed fill with stones and cobbles. The subsoil under the fill is covered with 1 inch of decomposed organic matter. The buried subsoil is 7 inches of very dark grayish brown silt loam underlain by 5 inches of mottled, firm, olive brown silt loam underlain by greater than 8 inches of mottled, very firm, olive brown silt loam.

INCLUSIONS

Similar Soils: Lamoine, Buxton, Roundabout
Dissimilar Soils: Scantic, Monadnock, Peru, Skerry, Croghan
Similar and dissimilar inclusions include named and adjacent filled phase soils and Udorthents

WATER RELATED INFORMATION

Hydrologic Soil Group: D
Surface Run-off: Low to Medium
KSat (NRCS estimated): Moderately High in the surface and Moderately Low to Moderately High in remainder of the solum, and Low to Moderately Low in the substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Lamoine soils are Very Limited for site development and roads due to depth to saturated zone, frost action, low strength and shrink-swell potential. Limitations due to these soil characteristics can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **LAMOINE SILT LOAM, 0-3 PERCENT SLOPES, FILLED**
Map Unit Symbol: LfA
Classification: Fine, illitic, nonacid, frigid Aeric Epiaquepts

SETTING

Parent Material: Filled Glacio-Marine and Glacio-Lacustrine Sediments
Landform: Roads through Baseslopes and Toeslopes
Landscape Position: Lower topographic positions in glaciomarine/lacustine sediments
Slope Gradient Range: A: 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat Poorly Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-AB-16. The surface is covered with up to 6 inches of extremely gravelly loamy sand and gravelly fine sandy loam roadbed fill with stones and cobbles. The subsoil under the fill is covered with 4 inches of partially decomposed organic matter. The buried subsoil is 9 inches of dark yellowish brown silt loam underlain by 9 inches of mottled, olive brown silt loam, underlain by 31 inches of mottled, firm olive brown silt loam. The substratum is greater than 17 inches of mottled, very firm, olive silty clay loam.

INCLUSIONS

Similar Soils: Lamoine, Buxton, Roundabout
Dissimilar Soils: Scantic, Monadnock, Peru, Skerry, Croghan
Similar and dissimilar inclusions include named and adjacent filled phase soils and Udorthents

WATER RELATED INFORMATION

Hydrologic Soil Group: D
Surface Run-off: Very Low to Low
KSat (NRCS estimated): Moderately High in the surface and Moderately Low to Moderately High in remainder of the solum, and Low to Moderately Low in the substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Lamoine soils are Very Limited for site development and roads due to depth to saturated zone, frost action, low strength and shrink-swell potential. Limitations due to these soil characteristics can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **MONADNOCK FINE SANDY LOAM, 8-15 PERCENT SLOPES, VERY BOULDERY**
Map Unit Symbol: MoC
Classification: Coarse-loamy over sandy or sandy-skeletal, isotic over mixed, frigid Typic Haplorthods

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper topographic positions in glacial till sediments
Slope Gradient Range: C: 8-15%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-RS-11. The surface is covered with 3 inches of moderately decomposed organic matter. The subsurface is 6 inches of dark grayish brown fine sandy loam. The subsoil is 2 inches of dark reddish brown sandy loam underlain by 6 inches of brown gravelly sandy loam underlain by 15 inches of dark yellowish brown gravelly course sandy loam. The substratum is greater than 52 inches of firm, light olive brown gravelly coarse sandy loam.

INCLUSIONS

Similar Soils: Peru, Skerry, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: B
Surface Run-off: Medium to High
KSat (NRCS estimated): Moderately High or High in the solum and High or Very High in the substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Monadnock soils are Somewhat Limited for site development and roads due to frost action. Limitations due to frost action can be mitigated by proper design of underground and aboveground features. Monadnock C slope soils are Somewhat Limited due to slope. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, erosion control measures and proper feature design. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **MONADNOCK VERY FINE SANDY LOAM, 15-25 PERCENT SLOPES, VERY BOULDERY**
Map Unit Symbol: MoD
Classification: Coarse-loamy over sandy or sandy-skeletal, isotic over mixed, frigid Typic Haplorthods

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper topographic positions in glacial till sediments
Slope Gradient Range: D: 15-25%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-AB-2. The surface is covered with 2 inches of moderately decomposed organic matter. The subsurface is 2 inches of strong brown very fine sandy loam, underlain by 7 inches of dark yellowish brown very fine sandy loam, underlain by pale brown very fine sandy loam (E horizon), underlain by 33 inches of light olive brown loamy very fine sand. The substratum is 27 inches of mottled, olive brown fine sandy loam. One side of the test pit contained a 24-48” rotten rock.

INCLUSIONS

Similar Soils: Peru, Skerry, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: B
Surface Run-off: High to Very High
KSat (NRCS estimated): Moderately High or High in the solum and High or Very High in the substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Monadnock soils are Somewhat Limited for site development and roads due to frost action. Limitations due to frost action can be mitigated by proper design of underground and aboveground features. Monadnock D slope soils are Very Limited due to slope. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, erosion control measures and proper feature design. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **MONADNOCK – PERU COMPLEX, 1-8 PERCENT SLOPES, VERY BOULDERY**
Map Unit Symbol: MPB
Classification: **Monadnock:** Coarse-loamy over sandy or sandy-skeletal, isotic over mixed, frigid Typic Haplorthods
Peru: Coarse-loamy, isotic, frigid Aquic Haplorthods
Complex Desc: Soils in this complex consist of 55% Monadnock soils, 35% Peru soils and 10 percent other soils as named in the Inclusions section below. These soils are so closely intermingled on the that they cannot be mapped separately on the landscape (at the Class C level of mapping).

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper and mid topographic positions in glacial till sediments
Slope Gradient Range: B: 1-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Monadnock: Well Drained; Peru: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: Monadnock: A typical pedon for this soil was described at XTP- AB-5. The surface is covered with 2 inches of moderately decomposed organic matter. The subsurface is 3 inches of grayish brown fine sandy loam. The subsoil is 3 inches of strong brown fine sandy loam underlain by 9 inches of strong brown gravelly fine sandy loam underlain by 27inches of light olive brown loamy very fine sand. The substratum is greater than 28 inches of firm, mottled, olive brown gravelly loamy fine sand.

Peru: A typical pedon for this soil was described at XTP-RS-6. The surface is covered with 3 inches of moderately decomposed organic matter. The subsurface is 2 inches of dark grayish brown sandy loam. The subsoil is 4 inches of reddish brown sandy loam underlain by 8 inches of light olive brown sandy loam underlain by 18 inches of olive brown sandy loam. The substratum is greater than 52 inches of very firm, olive sandy loam. The substratum has at least 30% rotten rock on one face.

INCLUSIONS

Similar Soils: Skerry, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

APPENDIX C - MAP UNIT DESCRIPTIONS

WATER RELATED INFORMATION

Hydrologic Soil Group:	Monadnock: B; Peru: C
Surface Run-off:	Low to Medium
KSat (NRCS estimated):	Monadnock: Moderately High or High in the solum and High or Very High in the substratum Peru: Moderately High or High in the solum, and Moderately Low or Moderately High in the dense substratum
Flooding Potential:	None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater

Soil Limitations: Monadnock soils are Somewhat Limited for site development and roads due to frost action. Limitations due to frost action can be mitigated by proper design of underground and aboveground features. Peru soils are Somewhat Limited for site development and roads due to depth to saturated zone and frost action. Limitations due to shallow depth to saturated zone and frost action can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: MONADNOCK – PERU COMPLEX, 8-15 PERCENT SLOPES, VERY BOULDERY
Map Unit Symbol: MPC
Classification: **Monadnock:** Coarse-loamy over sandy or sandy-skeletal, isotic over mixed, frigid Typic Haplorthods
Peru: Coarse-loamy, isotic, frigid Aquic Haplorthods
Complex Desc: Soils in this complex consist of 55% Monadnock soils, 35% Peru soils and 10 percent other soils as named in the Inclusions section below. These soils are so closely intermingled on the that they cannot be mapped separately on the landscape (at the Class C level of mapping).

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper and mid topographic positions in glacial till sediments
Slope Gradient Range: C: 8-15%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Monadnock: Well Drained; Peru: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: Monadnock: A typical pedon for this soil was not described, however, a similar soil was described at XTP- AB-5. The surface is covered with 2 inches of moderately decomposed organic matter. The subsurface is 3 inches of grayish brown fine sandy loam. The subsoil is 3 inches of strong brown fine sandy loam underlain by 9 inches of strong brown gravelly fine sandy loam underlain by 27inches of light olive brown loamy very fine sand. The substratum is greater than 28 inches of firm, mottled, olive brown gravelly loamy fine sand.

Peru: A typical pedon for this soil was not described, however, a similar soil was described at XTP-RS-6. The surface is covered with 3 inches of moderately decomposed organic matter. The subsurface is 2 inches of dark grayish brown sandy loam. The subsoil is 4 inches of reddish brown sandy loam underlain by 8 inches of light olive brown sandy loam underlain by 18 inches of olive brown sandy loam. The substratum is greater than 52 inches of very firm, olive sandy loam. The substratum has at least 30% rotten rock on one face.

INCLUSIONS

Similar Soils: Skerry, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

APPENDIX C - MAP UNIT DESCRIPTIONS

WATER RELATED INFORMATION

Hydrologic Soil Group:	Monadnock: B; Peru: C
Surface Run-off:	Medium to High
KSat (NRCS estimated):	Monadnock: Moderately High or High in the solum and High or Very High in the substratum Peru: Moderately High or High in the solum, and Moderately Low or Moderately High in the dense substratum
Flooding Potential:	None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater

Soil Limitations: Monadnock soils are Somewhat Limited for site development and roads due to frost action. Limitations due to frost action can be mitigated by proper design of underground and aboveground features. Peru soils are Somewhat Limited for site development and roads due to depth to saturated zone and frost action. Limitations due to shallow depth to saturated zone and frost action can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. C slope soils are Somewhat Limited due to slope. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, erosion control measures and proper feature design. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: MONADNOCK – PERU COMPLEX, 15-25 PERCENT SLOPES, VERY BOULDERY
Map Unit Symbol: MPD
Classification: **Monadnock:** Coarse-loamy over sandy or sandy-skeletal, isotic over mixed, frigid Typic Haplorthods
Peru: Coarse-loamy, isotic, frigid Aquic Haplorthods
Complex Desc: Soils in this complex consist of 55% Monadnock soils, 35% Peru soils and 10 percent other soils as named in the Inclusions section below. These soils are so closely intermingled on the that they cannot be mapped separately on the landscape (at the Class C level of mapping).

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper and mid topographic positions in glacial till sediments
Slope Gradient Range: D: 15-25%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Monadnock: Well Drained; Peru: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: Monadnock: A typical pedon for this soil was not described, however, a similar soil was described at XTP- AB-5. The surface is covered with 2 inches of moderately decomposed organic matter. The subsurface is 3 inches of grayish brown fine sandy loam. The subsoil is 3 inches of strong brown fine sandy loam underlain by 9 inches of strong brown gravelly fine sandy loam underlain by 27inches of light olive brown loamy very fine sand. The substratum is greater than 28 inches of firm, mottled, olive brown gravelly loamy fine sand.

Peru: A typical pedon for this soil was not described, however, a similar soil was described at XTP-RS-6. The surface is covered with 3 inches of moderately decomposed organic matter. The subsurface is 2 inches of dark grayish brown sandy loam. The subsoil is 4 inches of reddish brown sandy loam underlain by 8 inches of light olive brown sandy loam underlain by 18 inches of olive brown sandy loam. The substratum is greater than 52 inches of very firm, olive sandy loam. The substratum has at least 30% rotten rock on one face.

INCLUSIONS

Similar Soils: Skerry, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

APPENDIX C - MAP UNIT DESCRIPTIONS

WATER RELATED INFORMATION

Hydrologic Soil Group:	Monadnock: B; Peru: C
Surface Run-off:	High to Very High
KSat (NRCS estimated):	Monadnock: Moderately High or High in the solum and High or Very High in the substratum Peru: Moderately High or High in the solum, and Moderately Low or Moderately High in the dense substratum
Flooding Potential:	None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Monadnock soils are Somewhat Limited for site development and roads due to frost action. Limitations due to frost action can be mitigated by proper design of underground and aboveground features. Peru soils are Somewhat Limited for site development and roads due to depth to saturated zone and frost action. Limitations due to shallow depth to saturated zone and frost action can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. D slope soils are Very Limited due to slope. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, erosion control measures and proper feature design. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: PERU FINE SANDY LOAM, 0-3 PERCENT SLOPES, EXTREMELY BOULDERY
Map Unit Symbol: PeA
Classification: Coarse-loamy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper topographic positions in glacial till sediments
Slope Gradient Range: A: 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at HTP-RS-44. The subsurface is 2 inches of grayish brown fine sandy loam. The subsoil is 8 inches of brown fine sandy loam underlain by 12 inches of dark yellowish brown fine sandy loam. The substratum is greater than 8 inches of firm, light olive brown silt loam (this TP is a variant of the named unit due to the silt loam substratum).

INCLUSIONS

Similar Soils: Monadnock, Skerry, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: C
Surface Run-off: None to Low
KSat (NRCS estimated): Moderately High or High in the solum, and Moderately Low or Moderately High in the dense substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Peru soils are Somewhat Limited for site development and roads due to depth to saturated zone and frost action. Limitations due to shallow depth to saturated zone and frost action can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. The extremely bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: PERU FINE SANDY LOAM, 1-8 PERCENT SLOPES, EXTREMELY BOULDERY
Map Unit Symbol: PeB
Classification: Coarse-loamy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper topographic positions in glacial till sediments
Slope Gradient Range: B: 1-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-RS-5. The surface is covered with 3 inches of moderately decomposed organic matter. The subsurface is 3 inches of grayish brown fine sandy loam. The subsoil is 6 inches of brown fine sandy loam underlain by 11 inches of light olive brown fine sandy loam underlain by 8 inches of mottled, light olive brown gravelly coarse sandy loam. The substratum is greater than than 32 inches of very firm, olive brown sandy loam with finer textured lenses.

INCLUSIONS

Similar Soils: Monadnock, Skerry, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: C
Surface Run-off: Low to Medium
KSat (NRCS estimated): Moderately High or High in the solum, and Moderately Low or Moderately High in the dense substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Peru soils are Somewhat Limited for site development and roads due to depth to saturated zone and frost action. Limitations due to shallow depth to saturated zone and frost action can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. The extremely bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: PERU FINE SANDY LOAM, 8-15 PERCENT SLOPES, EXTREMELY BOULDERY
Map Unit Symbol: PeC
Classification: Coarse-loamy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper topographic positions in glacial till sediments
Slope Gradient Range: C: 8-15%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-RS-3. The surface is covered with 3 inches of moderately decomposed organic matter. The subsurface is 2 inches of grayish brown sandy loam. The subsoil is 8 inches of strong brown sandy loam underlain by 11 inches of light olive brown fine sandy loam underlain by 8 inches of mottled, firm, light olive brown fine sandy loam. The substratum is 7 inches of firm, olive coarse sandy loam underlain by greater than 44 inches of very firm, olive very stony sandy loam.

INCLUSIONS

Similar Soils: Monadnock, Skerry, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: C
Surface Run-off: Medium to High
KSat (NRCS estimated): Moderately High or High in the solum, and Moderately Low or Moderately High in the dense substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Peru soils are Somewhat Limited for site development and roads due to depth to saturated zone and frost action. Limitations due to shallow depth to saturated zone and frost action can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. C slope soils are Somewhat Limited due to slope. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, erosion control measures and proper feature design. The extremely bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: PERU FINE SANDY LOAM, 15-25 PERCENT SLOPES, EXTREMELY BOULDERY
Map Unit Symbol: PeD
Classification: Coarse-loamy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper topographic positions in glacial till sediments
Slope Gradient Range: D: 15-25%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was not described, however a similar test pit was described at XTP-RS-3. The surface is covered with 3 inches of moderately decomposed organic matter. The subsurface is 2 inches of grayish brown sandy loam. The subsoil is 8 inches of strong brown sandy loam underlain by 11 inches of light olive brown fine sandy loam underlain by 8 inches of mottled, firm, light olive brown fine sandy loam. The substratum is 7 inches of firm, olive coarse sandy loam underlain by greater than 44 inches of very firm, olive very stony sandy loam.

INCLUSIONS

Similar Soils: Monadnock, Skerry, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: C
Surface Run-off: High to Very High
KSat (NRCS estimated): Moderately High or High in the solum, and Moderately Low or Moderately High in the dense substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Peru soils are Somewhat Limited for site development and roads due to depth to saturated zone and frost action. Limitations due to shallow depth to saturated zone and frost action can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. D slope soils are Very Limited due to slope. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, erosion control measures and proper feature design. The extremey bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **ROUNDABOUT - LAMOINE COMPLEX, 1-8 PERCENT SLOPES, VERY BOULDERY**
Map Unit Symbol: RLB
Classification: **Roundabout:** Coarse-silty, mixed, active, nonacid, frigid Aeric Endoaquepts
Lamoine: Fine, illitic, nonacid, frigid Aeric Epiaquepts
Complex Desc: Soils in this complex consist of 55% Lamoine soils, 35% Roundabout soils and 10 percent other soils as named in the Inclusions section below. These soils are so closely intermingled on the that they cannot be mapped separately on the landscape (at the Class C level of mapping).

SETTING

Parent Material: Glacio-Marine and Glacio-Lacustrine Sediments
Landform: Baseslopes and Toeslopes
Landscape Position: Lower topographic positions in glaciomarine/lacustine sediments
Slope Gradient Range: B: 1-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat Poorly Drained
Depth to Bedrock: >60”
Typical Profile Description: Roundabout: A typical pedon for this soil was described at XTP- RS-17. The surface is covered with 2 inches of moderately decomposed organic matter. The subsurface is 2 inches of dark grayish brown fine sandy loam. The subsoil is 12 inches of dark yellowish brown very fine sandy loam underlain by 4 inches of mottled, light olive brown silt loam. The substratum is 18 inches of mottled, light olive brown very fine sandy loam underlain by greater than 44 inches of mottled, olive brown loamy fine sand.

Lamoine: A typical pedon for this soil was described at XTP-RS-52. The surface is covered with 3 inches of moderately decomposed organic matter. The surface is 3 inches of dark brown silt loam. The subsoil is 9 inches of light olive brown silt loam underlain by 2 inches of mottled, light olive brown silt loam underlain by 6 inches of firm, mottled, light olive brown silt loam. The substratum is greater than 9 inches of firm, olive silty clay loam.

INCLUSIONS

Similar Soils: Buxton
Dissimilar Soils: Brayton, Scantic, Croghan, Skerry, Monadnock, Peru
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

APPENDIX C - MAP UNIT DESCRIPTIONS

WATER RELATED INFORMATION

Hydrologic Soil Group:	Roundabout: B/D; Lamoine: C/D
Surface Run-off:	Low to Medium
KSat (NRCS estimated):	Roundabout: Moderately High or High in the mineral solum, Moderately Low or Moderately High in the medium textured substratum, and is High or Very High in the coarse textured substratum. Lamoine: Moderately High in the surface and Moderately Low to Moderately High in remainder of the solum, and Low to Moderately Low in the substratum
Flooding Potential:	None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Roundabout soils are Very Limited for site development and roads due to depth to saturated zone. Lamoine soils are Very Limited for site development and roads due to depth to saturated zone, frost action, low strength and shrink-swell potential. Limitations due to these soil characteristics can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **SCANTIC SILT LOAM, 0-3 PERCENT SLOPES, BURIED PHASE, VERY BOULDERY**
Map Unit Symbol: SbA
Classification: Fine, illitic, nonacid, frigid Typic Epiaquepts

SETTING

Parent Material: Buried Glacio-Marine and Glacio-Lacustrine Sediments
Landform: Roads through Toeslopes and Depressions
Landscape Position: Lowest topographic positions in glaciomarine/lacustine sediments
Slope Gradient Range: A: 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Poorly Drained
Depth to Bedrock: >60”
Typical Profile Description: The roadbed fill over the typical nearby Scantic soil ranged up to about 29 inches in depth. A typical pedon for this soil was described at XTP-AB-28. Under the roadfill, the surface is covered with 6 inches of decomposed organic matter. The subsoil is 12 inches of mottled firm olive brown silt loam underlain by at least 6 inches of mottled very firm olive brown silt loam.

INCLUSIONS

Similar Soils: Brayton
Dissimilar Soils: Biddeford, Lamoine, Buxton, Colonel, Roundabout, Peru
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: D
Surface Run-off: None to Low
KSat (NRCS estimated): Moderately High or High in the surface and subsurface horizons and Low or Moderately Low in the subsoil and substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Scantic soils are Very Limited for site development and roads due to depth to saturated zone, frost action, low strength and shrink-swell potential. Limitations due to these soil characteristics can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. This map unit is hydric and in a mapped wetland. Wetlands have permitting limitations.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **SCANTIC SILT LOAM, 0-3 PERCENT SLOPES, VERY BOULDERY**
Map Unit Symbol: ScA
Classification: Fine, illitic, nonacid, frigid Typic Epiaquepts

SETTING

Parent Material: Glacio-Marine and Glacio-Lacustrine Sediments
Landform: Toeslopes and Depressions
Landscape Position: Lowest topographic positions in glaciomarine/lacustine sediments
Slope Gradient Range: A: 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Poorly Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-RS-50. The surface is covered with 4 inches of partially decomposed and decomposed organic matter. The surface is 4 inches of dark grayish brown silt loam. The subsoil is 8 inches of mottled, light olive brown silt loam. The substratum is greater than 18 inches of firm, mottled, olive silty clay loam.

INCLUSIONS

Similar Soils: Brayton
Dissimilar Soils: Biddeford, Lamoine, Buxton, Colonel, Brayton, Roundabout, Peru
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: D
Surface Run-off: None to Low
KSat (NRCS estimated): Moderately High or High in the surface and subsurface horizons and Low or Moderately Low in the subsoil and substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Scantic soils are Very Limited for site development and roads due to depth to saturated zone, frost action, low strength and shrink-swell potential. Limitations due to these soil characteristics can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders. This map unit is hydric and in a mapped wetland. Wetlands have permitting limitations.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **SKERRY FINE SANDY LOAM, 1-8 PERCENT SLOPES, BURIED PHASE**
Map Unit Symbol: SfB
Classification: Coarse-loamy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Buried Glacial Till
Landform: Roads through Summits and Shoulder Slopes
Landscape Position: Upper topographic positions in glacial till sediments
Slope Gradient Range: B: 1-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: The roadbed fill over the typical nearby Skerry soil ranged up to about 30 inches in depth. A typical pedon for this soil was described at HTP-AB-18. Under the roadfill, the surface is covered with 6 inches of partially decomposed organic matter. The subsurface is 6 inches of brown fine sandy loam. The subsoil is 10 inches of strong brown fine sandy loam underlain by at least 16 inches of olive brown loamy fine sand.

INCLUSIONS

Similar Soils: Monadnock, Peru, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: C
Surface Run-off: Low to Medium
KSat (NRCS estimated): Moderately High or High in the solum, and Moderately Low or Moderately High in the dense substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Skerry soils are Somewhat Limited for site development and roads due to depth to saturated zone. Limitations due to shallow depth to saturated zone can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **SKERRY FINE SANDY LOAM, 1-8 PERCENT SLOPES, VERY BOULDERY**
Map Unit Symbol: SkB
Classification: Coarse-loamy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper topographic positions in glacial till sediments
Slope Gradient Range: B: 1-8%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-RS-13. The surface is covered with 6 inches of partially decomposed organic matter. The subsurface is 6 inches of grayish brown sandy loam. The subsoil is 5 inches of brown fine sandy loam underlain by 5 inches of dark yellowish brown fine sandy loam underlain by 12 inches of mottled, light olive brown very fine sandy loam. The substratum is 8 inches of mottled, firm, light olive brown gravelly loamy sand underlain by greater than 48 inches of firm, olive gravelly loamy sand to coarse sandy loam.

INCLUSIONS

Similar Soils: Monadnock, Peru, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: C
Surface Run-off: Low to Medium
KSat (NRCS estimated): Moderately High or High in the solum, and Moderately Low or Moderately High in the dense substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Skerry soils are Somewhat Limited for site development and roads due to depth to saturated zone. Limitations due to shallow depth to saturated zone can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: SKERRY COBBLY FINE SANDY LOAM, 8-15 PERCENT SLOPES, VERY BOULDERY
Map Unit Symbol: SkC
Classification: Coarse-loamy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper topographic positions in glacial till sediments
Slope Gradient Range: C: 8-15%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-AB-11. The surface is covered with 2 inches of partially decomposed organic matter. The surface is 3 inches of very dark grayish brown cobbly fine sandy loam. The subsoil is 2 inches of dark brown cobbly fine sandy loam underlain by 5 inches of dark yellowish brown fine sandy loam underlain by 11 inches of dark yellowish brown cobbly fine sandy loam underlain by at least 21 inches of dark yellowish brown cobbly loamy fine sand. Refusal was at 36 inches due to a very large boulder.

INCLUSIONS

Similar Soils: Monadnock, Peru, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: C
Surface Run-off: Medium to High
KSat (NRCS estimated): Moderately High or High in the solum, and Moderately Low or Moderately High in the dense substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Skerry soils are Somewhat Limited for site development and roads due to depth to saturated zone. Limitations due to shallow depth to saturated zone can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. C slope soils are Somewhat Limited due to slope. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, erosion control measures and proper feature design. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: SKERRY COBBLY FINE SANDY LOAM, 8-15 PERCENT SLOPES, VERY BOULDERY
Map Unit Symbol: SkD
Classification: Coarse-loamy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper topographic positions in glacial till sediments
Slope Gradient Range: D: 15-25%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was not described. However a similar test pit was described at XTP-AB-11. The surface is covered with 2 inches of partially decomposed organic matter. The surface is 3 inches of very dark grayish brown cobbly fine sandy loam. The subsoil is 2 inches of dark brown cobbly fine sandy loam underlain by 5 inches of dark yellowish brown fine sandy loam underlain by 11 inches of dark yellowish brown cobbly fine sandy loam underlain by at least 21 inches of dark yellowish brown cobbly loamy fine sand. Refusal was at 36 inches due to a very large boulder.

INCLUSIONS

Similar Soils: Monadnock, Peru, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: C
Surface Run-off: High to Very High
KSat (NRCS estimated): Moderately High or High in the solum, and Moderately Low or Moderately High in the dense substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Skerry soils are Somewhat Limited for site development and roads due to depth to saturated zone. Limitations due to shallow depth to saturated zone can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. D slope soils are Very Limited due to slope. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, erosion control measures and proper feature design. The very bouldery surface can be limiting for design and construction. Limitations due to boulders can be mitigated by removing or working around boulders.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **SKERRY FINE SANDY LOAM, 3-15 PERCENT SLOPES**
Map Unit Symbol: SrC
Classification: Coarse-loamy, isotic, frigid Aquic Haplorthods

SETTING

Parent Material: Glacial Till
Landform: Summits and Shoulder Slopes
Landscape Position: Upper topographic positions in glacial till sediments
Slope Gradient Range: C: 3-15%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately Well Drained
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at XTP-AB-65. The surface is covered with 2 inches of partially decomposed organic matter. The subsurface is 2 inches of pale brown fine sandy loam. The subsoil is 2 inches of dark brown fine sandy loam underlain by 8 inches of strong brown fine sandy loam underlain by 5 inches of dark yellowish brown fine sandy loam. The substratum is at least 36 inches of mottled firm olive brown very gravelly loamy fine sand with extremely gravelly and no gravel lenses.

INCLUSIONS

Similar Soils: Monadnock, Peru, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: C
Surface Run-off: Medium to High
KSat (NRCS estimated): Moderately High or High in the solum, and Moderately Low or Moderately High in the dense substratum
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: Skerry soils are Somewhat Limited for site development and roads due to depth to saturated zone. Limitations due to shallow depth to saturated zone can be mitigated by additions of granular fill, proper design and drainage of underground and aboveground features, and proper drainage. C slope soils are Somewhat Limited due to slope. Limitations due to steep slopes can be mitigated by cutting and/or filling slopes, erosion control measures and proper feature design.

APPENDIX C - MAP UNIT DESCRIPTIONS

Map Unit: **UDORTHENTS, 0-3 PERCENT SLOPES**
Map Unit Symbol: UdA
Classification: None

SETTING

Parent Material: Variable – placed fill
Landform: Variable – Roads Throughout Site
Landscape Position: Variable – Roads Throughout Site
Slope Gradient Range: A: 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: None
Depth to Bedrock: >60”
Typical Profile Description: A typical pedon for this soil was described at HTP-AB-19. The roadbed fill over the adjacent soils was greater than 40 inches in depth. The roadbed fill was compact, extremely gravelly loamy sand and gravelly fine sandy loam fill with stones and cobbles.

INCLUSIONS

Similar Soils: Monadnock, Peru, Hermon
Dissimilar Soils: Brayton, Scantic, Lamoine, Buxton, Roundabout, Elmwood, Croghan
Similar and Dissimilar soil inclusions include other slopes, coarse fragment percentage and surface stoniness classes of the named soils and inclusions.

WATER RELATED INFORMATION

Hydrologic Soil Group: None
Surface Run-off: Very Low to Low
KSat (NRCS estimated): None
Flooding Potential: None

USE AND MANAGEMENT

Proposed Use: Large Scale Solar Installation – support posts, panels, collector lines, roads, stormwater
Soil Limitations: The Udorthents on this site are deep filled roadbeds. The roadbed material appears suitable for the proposed development. If development features will be below the fill, see limitations for the adjacent soil type.

SOIL PHOTOGRAPHS

Bi – Biddeford Soil – HTP-AB-21

Br - Brayton Soil – HTP-AB-43

SOIL PHOTOGRAPHS

Bu – Bucksport Soil – HTP–AB-25

Bu – Buxton Soil - EXTP-AB-17

SOIL PHOTOGRAPHS

Co – Colonel Soil - EXTP-RS-10

Cr – Croghan Soil – EXTP-RS-47

SOIL PHOTOGRAPHS

El – Elmwood Soil - EXTP-RS-29

He – Hermon Soil – EXTP-RS-18

SOIL PHOTOGRAPHS

La – Lamoine Soil - EXTP-RS-23

Mo - Monadnock Soil - EXTP-RS-18

SOIL PHOTOGRAPHS

Pe – Peru Soil - XTP-RS-5

Ro – Roundabout Soil – EXTP-RS-7

SOIL PHOTOGRAPHS

Sc – Scantic Soil - HTP-RS-50

Sk – Skerry Soil - EXTP-RS-36

APPENDIX D
Soil Conditions Summary Table
Soil Test Pit Logs

FORM E Rev. 07/11

SOIL CONDITIONS SUMMARY TABLE

SUMMARY LOG OF SUBSURFACE EXPLORATIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Three Rivers Solar	Three Rivers Solar Power, LLC	T16MD

Lot No.	Exploration Symbol *(TP 1, B 2, etc.)*	☒ if at SSWD Field	Description of subsurface materials by: ● Soil profile/condition *(if by S.E.),* ● Soil series name *(if by C.S.S.),* or by ● Geologic unit *(if by C.G.)*	Depths to *(inches)*: Redoximorphic Features	Bedrock	Hydraulically Restrictive Layer	Limit of Exploration	Ground Surface Slope (%)	Ground Surface Elevation
	XTPRS 1	☐	Colonel sandy loam	15	n.o.	25	80	5	
	XTPRS 2	☐	Peru sandy loam	26	n.o.	30	72	7	
	XTPRS 3	☐	Peru sandy loam	21	n.o.	28	80	14	
	XTPRS 4	☐	Peru sandy loam	20	n.o.	20	84	0-5	
	XTPRS 5	☐	Peru sandy loam	20	n.o.	28	60	0-2	
	XTPRS 6	☐	Peru sandy loam	32	n.o.	32	84	3-5	
	XTPRS 7	☐	Roundabout coarse sandy loam	23	n.o.	18	60	3-4	
	XTPRS 8	☐	Peru fine sandy loam	26	n.o.	36	80	15-16	
	XTPRS 9	☐	Peru fine sandy loam	22	n.o.	30	72	0-3	
	XTPRS10	☐	Colonel fine sandy loam	23	n.o.	18	70	2	
	XTPRS11	☐	Monadnock fine sandy loam	n.o.	n.o.	n.o.	80	7-9	
	XTPRS12	☐	Scantic silt loam	3	n.o.	16	50	2	
	XTPRS13	☐	Skerry sandy loam	16	n.o.	28	84	3	
	XTPRS14	☐	Monadnock sandy loam	40	n.o.	40	90	12-15	
	XTPRS15	☐	Skerry sandy loam, var.	22	n.o.	80	80	2-3	
	XTPRS16	☐	Scantic silt loam	8	n.o.	13	80	2-3	
	XTPRS17	☐	Roundabout very fine sandy loam	14	n.o.	80	80	5-7	
	XTPRS18	☐	Hermon sandy loam	90	n.o.	90	90	3	
	XTPRS19	☐	Swanton gravelly loamy sand	7	n.o.	28	80	0-2	
	XTPRS20	☐	Hermon gravelly sandy loam	72	n.o.	72	72	5	
	XTPRS21	☐	Colonel stony sandy loam	13	n.o.	22	70	2-4	
	XTPRS22	☐	Monadnock sandy loam	40	n.o.	40	80	6	
	XTPRS23	☐	Lamoine silt loam	23	n.o.	18	85	3	
	XTPRS24	☐	Lamoine silt loam	9	n.o.	28	80	3-5	
	XTPRS25	☐	Lamoine silt loam	9	n.o.	19	60	3	
	XTPRS26	☐	Elmwood fine sandy loam	18	n.o.	44	80	2-3	
	XTPRS27	☐	Lamoine loam	12	n.o.	17	90	5	
	XTPRS28	☐	Lamoine silt loam	11	n.o.	14	50	5	
	XTPRS29	☐	Buxton gravelly fine sandy loam, variant	20	n.o.	20	84	4	
	XTPRS30	☐	Buxton silt loam, variant	33	n.o.	33	60	5	
	XTPRS31	☐	Skerry fine sandy loam	60	n.o.	60	60	10	
	XTPRS32	☐	Monadnock fine sandy loam	80	n.o.	80	80	30-33	

INVESTIGATOR INFORMATION AND SIGNATURE

Signature	Date
	11/20/18 to 11/26/18
Name Printed	**Cert/Lic/Reg. #**
Roger St.Amand	#SS471

Qualification: ☐ Licensed Site Evaluator ☒ Certified Soil Scientist ☐ Certified Geologist ☐ Other:

MAINE ROGER R. ST.AMAND 471 CERTIFIED SOIL SCIENTIST

FORM E Rev. 07/11

SOIL CONDITIONS SUMMARY TABLE

SUMMARY LOG OF SUBSURFACE EXPLORATIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Three Rivers Solar	Three Rivers Solar Power, LLC	T16MD

Lot No.	Exploration Symbol *(TP 1, B 2, etc.)*	✘ if at SSWD Field	Description of subsurface materials by: ● Soil profile/condition *(if by S.E.),* ● Soil series name *(if by C.S.S.),* or by ● Geologic unit *(if by C.G.)*	Depths to *(inches)*: Redoximorphic Features	Bedrock	Hydraulically Restrictive Layer	Limit of Exploration	Ground Surface Slope (%)	Ground Surface Elevation
	HTPRS33	☐	Lamoine silt loam	14	n.o.	14	24	3	
	XTPRS34	☐	Skerry fine sandy loam	21	n.o.	21	96	10	
	XTPRS35	☐	Lamoine silt loam	12	n.o.	16	80	2-3	
	XTPRS36	☐	Skerry fine sandy loam	22	n.o.	26	72	8-9	
	XTPRS37	☐	Lamoine silt loam	13	n.o.	17	33	3	
	XTPRS38	☐	Lamoine silt loam	23	n.o.	33	72	2	
	XTPRS39	☐	Lamoine silt loam	14	n.o.	25	72	2	
	XTPRS40	☐	Roundabout silt loam	23	n.o.	90	90	10-15	
	XTPRS41	☐	Lamoine silt loam	23	n.o.	16	80	0-3	
	HTBRS42	☐	Peru fine sandy loam	24	n.o.	33	33	10-15	
	HTBRS43	☐	Peru fine sandy loam	20	n.o.	30	30	3	
	HTBRS44	☐	Peru fine sandy loam	20	n.o.	30	30	1-2	
	HTPRS45	☐	Monadnock fine sandy loam	n.o.	n.o.	n.o.	60	10	
	HTPRS46	☐	Hermon sandy loam	n.o.	n.o.	n.o.	38	13	
	HTPRS47	☐	Croghan loamy fine sand	30	n.o.	37	70	3	
	HTPRS48	☐	Croghan loamy fine sand	18	n.o.	18	30	2	
	HTPRS49	☐	Hermon sandy loam	n.o	n.o	n.o	60	3	
	HTPRS50	☐	Scantic silt loam	4	n.o.	12	30	2-3	
	HTPRS51	☐	Peru gravelly sandy loam	20	n.o.	n.o.	30	16	
	HTPRS52	☐	Lamoine silt loam	12	n.o.	14	29	3-5	
	HTPRS53	☐	Croghan gravelly sandy loam	n.o.	n.o.	20	30	8	
	XTPAJ 1	☐	Croghan loamy fine sand	30	n.o.	37	70	8	
	XTPAJ 2	☐	Hermon very gravelly loamy sand	n.o.	n.o.	n.o.	80	19	
	XTPAJ 3	☐	Buxton very fine sandy loam	15	n.o.	15	72	4	
	XTPAJ 4	☐	Croghan fine sandy loam	31	n.o.	n.o.	80	3	
	XTPAJ 5	☐	Croghan loamy fine sand	36	n.o.	n.o.	72	10	
	XTPAJ 6	☐	Monadnock fine sandy loam, variant	n.o.	n.o.	34	80	14	
	XTPAJ 7	☐	Monadnock gravelly fine sandy loam	n.o.	n.o.	n.o.	80	17	
	XTPRS54	☐	Peru fine sandy loam	30	n.o.	30	50	3	
	XTPRS55	☐	Hermon sandy loam	n.o.	n.o.	n.o.	60	8	
	XTPRS56	☐	Lamoine silt loam	13	n.o.	13	60	5	
	XTPRS57	☐	Nicholville silt loam	23	n.o.	23	80	2	

INVESTIGATOR INFORMATION AND SIGNATURE

Signature	Date
Roger St.Amand	11/20/18 - 11/26/18
Name Printed	**Cert/Lic/Reg. #**
Roger St.Amand	#SS471

Qualification

☐ Licensed Site Evaluator ☒ Certified Soil Scientist
☐ Certified Geologist ☐ Other:

MAINE ROGER R. ST AMAND 471 CERTIFIED SOIL SCIENTIST

 FORM E Rev. 07/11

SOIL CONDITIONS SUMMARY TABLE

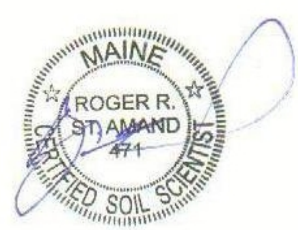
SUMMARY LOG OF SUBSURFACE EXPLORATIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Three Rivers Solar	Three Rivers Solar Power, LLC	T16MD

Lot No.	Exploration Symbol *(TP 1, B 2, etc.)*	✖ if at SSWD Field	Description of subsurface materials by: • Soil profile/condition *(if by S.E.)*, • Soil series name *(if by C.S.S.)*, or by • Geologic unit *(if by C.G.)*	Depths to *(inches)*: Redoximorphic Features	Bedrock	Hydraulically Restrictive Layer	Limit of Exploration	Ground Surface Slope (%)	Ground Surface Elevation
	XTPRS58	☐	Buxton silt loam	28	n.o.	28	80	10	
	XTPRS59	☐	Buxton silt loam	19	n.o.	23	70	2-3	
	XTPRS60	☐	Lamoine silt loam, variant	15	n.o.	15	66	2	
	XTPRS61	☐	Buxton silt loam	20	n.o.	20	36	3	
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							

INVESTIGATOR INFORMATION AND SIGNATURE

Signature		Date	01/18/19
Name Printed	Roger St.Amand	Cert/Lic/Reg. #	SS471
Qualification	☐ Licensed Site Evaluator ☐ Certified Geologist	☒ Certified Soil Scientist ☐ Other:	



FORM E Rev. 07/11

SOIL CONDITIONS SUMMARY TABLE

SUMMARY LOG OF SUBSURFACE EXPLORATIONS AT PROJECT SITES

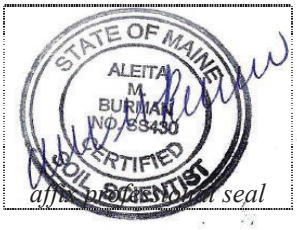
Project Name:	Applicant Name:	Project Location (municipality):
Three Rivers Solar	Three Rivers Solar Power, LLC	T16MD

Lot No.	Exploration Symbol *(TP 1, B 2, etc.)*	☒ if at SSWD Field	Description of subsurface materials by: ● Soil profile/condition *(if by S.E.),* ● Soil series name *(if by C.S.S.),* or by ● Geologic unit *(if by C.G.)*	Depths to *(inches)*: Redoximorphic Features	Bedrock	Hydraulically Restrictive Layer	Limit of Exploration	Ground Surface Slope (%)	Ground Surface Elevation
	XTPAB1	☐	Swanton very fine sandy loam, variant	14	n.o.	14	72	0-3	
	XTPAB2	☐	Monadnock very fine sandy loam	45	n.o.	n.o.	72	1-5	
	XTPAB3	☐	Peru fine sandy loam	37	n.o.	37	72	1-4	
	XTPAB4	☐	Skerry fine sandy loam	39	n.o.	39	72	1-3	
	XTPAB5	☐	Monadnock fine sandy loam	44	n.o.	44	72	0-3	
	XTPAB6	☐	Monadnock gravelly loamy sand	n.o.	n.o.	n.o.	72	5-10	
	XTPAB7	☐	Peru fine sandy loam	34	n.o.	34	72	1-4	
	XTPAB8	☐	Peru fine sandy loam	24	n.o.	24	72	0-3	
	XTPAB9	☐	Skerry fine sandy loam	16	n.o.	32	72	5-10	
	XTPAB10	☐	Skerry fine sandy loam	24	n.o.	24	72	0-2	
	XTPAB11	☐	Skerry cobbly fine sandy loam	36	n.o.	36	36	3-5	
	XTPAB12	☐	Croghan fine sandy loam	16	n.o.	16	60	2-4	
	XTPAB13	☐	Roundabout silt loam, buried	48	n.o.	48	65	5-8	
	XTPAB14	☐	Croghan fine sandy loam	21	n.o.	21	66	5-8	
	XTPAB15	☐	Roundabout silt loam	16	n.o.	27	72	3-5	
	XTPAB16	☐	Lamoine silt loam	9	n.o.	18	66	0-3	
	XTPAB17	☐	Buxton silt loam	18	n.o.	18	60	0-3	
	HTPAB18	☐	Skerry fine sandy loam, buried	n.o.	n.o.	n.o.	72	1-3	
	HTPAB19	☐	Udorthents	54	n.o.	61	66	0-3	
	HTPAB20	☐	Lamoine silt loam, buried	41	n.o.	41	53	0-3	
	HTPAB21	☐	Bucksport muck, buried	34	n.o.	n.o.	70	0	
	HTPAB22	☐	Lamoine silt loam, variant	12	n.o.	12	20	0-3	
	HTPAB23	☐	Scantic silt loam, buried	36	n.o.	36	48	0	
	HTPAB24	☐	Lamoine silt loam, filled	24	n.o.	24	30	0-3	
	HTPAB25	☐	Biddeford muck, buried	54	n.o.	54	55	0-3	
	HTPAB26	☐	Udorthents	69	n.o.	69	74	8-15	
	HTPAB27	☐	Lamoine silt loam, filled	22	n.o.	22	28	0	
	HTPAB28	☐	Scantic silt loam, buried	34	n.o.	34	52	0-3	
	HTPAB29	☐	Lamoine silt loam, filled	29	n.o.	29	32	5	
	HTPAB30	☐	Scantic silt loam, filled	16	n.o.	16	28	0-3	
	HTPAB31	☐	Monadnock fine sandy loam	44+	n.o.	44+	44	3-5	
	HTPAB32	☐	Roundabout fine sandy loam, variant	21	n.o.	21	30	6-8	

INVESTIGATOR INFORMATION AND SIGNATURE

Signature	Date
Aleita M. Burman	08/23/19
Name Printed	**Cert/Lic/Reg. #**
Aleita M. Burman	SS430

Qualification: ☐ Licensed Site Evaluator ☒ Certified Soil Scientist ☐ Certified Geologist ☐ Other:



affix professional seal

FORM E Rev. 07/11

SOIL CONDITIONS SUMMARY TABLE

SUMMARY LOG OF SUBSURFACE EXPLORATIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Three Rivers Solar	Three Rivers Solar Power, LLC	T16MD

Lot No.	Exploration Symbol *(TP 1, B 2, etc.)*	☒ if at SSWD Field	Description of subsurface materials by: ● Soil profile/condition *(if by S.E.),* ● Soil series name *(if by C.S.S.),* or by ● Geologic unit *(if by C.G.)*	Depths to *(inches)*: Redoximorphic Features	Bedrock	Hydraulically Restrictive Layer	Limit of Exploration	Ground Surface Slope (%)	Ground Surface Elevation
	HTPAB33	☐	Roundabout silt loam	9	n.o.	12	22	1-3	
	HTPAB34	☐	Scantic silt loam	3	n.o.	10	20	0-3	
	HTPAB35	☐	Lamoine silt loam	16	n.o.	10	30	1-3	
	HTPAB36	☐	Buxton silt loam	16	n.o.	16	26	1-3	
	HTPAB37	☐	Peru loamy very fine sand	18	n.o.	18	28	5-10	
	HTPAB38	☐	Lamoine silt loam	12	n.o.	12	26	0-3	
	HTPAB39	☐	Udorthents	28	n.o.	28	28	15	
	HTPAB40	☐	Peru very fine sandy loam	17+	n.o.	17+	17	3-5	
	HTPAB41	☐	Skerry very fine sandy loam	18+	n.o.	18+	18	3-5	
	HTPAB42	☐	Buxton silt loam	16	n.o.	16	24	3-5	
	HTPAB43	☐	Brayton mucky silt loam	4	n.o.	4	36	0	
	XTPAB44	☐	Peru gravelly fine sandy loam	22	n.o.	22	72	8-10	
	XTPAB45	☐	Lamoine silt loam	8	n.o.	8	48	1-5	
	XTPAB46	☐	Skerry fine sandy loam	25	n.o.	25	60	18-22	
	XTPAB47	☐	Skerry fine sandy loam	17	n.o.	17	68	1-3	
	XTPAB48	☐	Lamoine silt loam	10	n.o.	10	60	1-5	
	XTPAB49	☐	Peru cobbley fsl, variant, ext stony	22	n.o.	22	53	12-15	
	XTPAB50	☐	Roundabout silt loam	16	n.o.	16	55	0-3	
	XTPAB51	☐	Peru cobbley fine sandy loam	28	n.o.	28	58	15	
	XTPAB52	☐	Buxton silt loam	16	n.o.	16	55	1-5	
	XTPAB53	☐	Peru cobbley fine sandy loam	24	n.o.	24	55	8-10	
	XTPAB54	☐	Peru cobbley fine sandy loam	24	n.o.	24	60	0-3	
	XTPAB55	☐	Peru fine sandy loam	24	n.o.	24	55	0-3	
	XTPAB56	☐	Tunbridge fsl, variant, ext bouldery	28	36	28	36	0-3	
	XTPAB57	☐	Tunbridge fsl, variant, ext bouldery	27	53	27	53	0-3	
	XTPAB58	☐	Peru cobbley fsl, ext bouldery	27	n.o.	27	72	5-10	
	XTPAB59	☐	Peru fine sandy loam, ext bouldery	30	n.o.	30	60	0-3	
	XTPAB60	☐	Skerry fine sandy loam	25	n.o.	25	60	10-13	
	XTPAB61	☐	Croghan fine sandy loam	32	n.o.	n.o.	60	1-5	
	XTPAB62	☐	Croghan v gravelly loamy sand	26	n.o.	n.o.	60	12	
	XTPAB63	☐	Croghan v gravelly fine sandy loam	34	n.o.	n.o.	60	15-25	
	XTPAB64	☐	Buxton silt loam, variant	17	n.o.	17	60	0-3	

INVESTIGATOR INFORMATION AND SIGNATURE

Signature	Date
Aleita M. Burman	08/23/19 - 09/17/19
Name Printed	**Cert/Lic/Reg. #**
Aleita M. Burman	SS430

Qualification

☐ Licensed Site Evaluator ☒ Certified Soil Scientist
☐ Certified Geologist ☐ Other:

STATE OF MAINE ALEITA M. BURMAN #SS430 CERTIFIED SOIL SCIENTIST

affix professional seal

FORM E Rev. 07/11

SOIL CONDITIONS SUMMARY TABLE

SUMMARY LOG OF SUBSURFACE EXPLORATIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Three Rivers Solar	Three Rivers Solar Power, LLC	T16MD

Lot No.	Exploration Symbol *(TP 1, B 2, etc.)*	✗ if at SSWD Field	Description of subsurface materials by: • Soil profile/condition *(if by S.E.)*, • Soil series name *(if by C.S.S.)*, or by • Geologic unit *(if by C.G.)*	Depths to *(inches)*: Redoximorphic Features	Bedrock	Hydraulically Restrictive Layer	Limit of Exploration	Ground Surface Slope (%)	Ground Surface Elevation
	XTPAB65	☐	Skerry fine sandy loam	17	n.o.	17	54	5-10	
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							

INVESTIGATOR INFORMATION AND SIGNATURE

Signature	*[signature]*	Date	09/17/19
Name Printed	Aleita M. Burman	Cert/Lic/Reg. #	SS430
Qualification	☐ Licensed Site Evaluator ☐ Certified Geologist	☒ Certified Soil Scientist ☐ Other:	

STATE OF MAINE ALEITA M. BURMAN NO. SS430 CERTIFIED SOIL SCIENTIST

affix professional seal

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	CoB	O Horizon Thickness:	0"

Test Pit	EXTP-RS-1	Hydric (y/n)	N
Soil Name:	Colonel sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	sandy loam	friable	5YR 4/4	
	2				
	3				
Bhs	4				none observed
	5	sandy loam			
	6				
	7			5YR 4/4	
	8		friable		
	9				
	10				
Bs	12	gravelly sandy loam	friable	10YR 4/4	
	14				
	16				
BC	18	coarse sandy loam	friable	2.5Y 5/3	cmd 5Y 6/2 cmp 10YR 4/4
	20				
	25				
Cd	30				
	35	gravelly sandy loam	very firm	2.5Y 5/3	cmd 5Y 5/1 cmp 10YR 4/6
	40				
	45				
	50				
	55				
C_2	60	coarse gravelly coarse sandy loam	firm	seepage 2.5Y 5/3 LL1 = 80"	56" ↗
	65				
	70				
	75				
	80				

Symbol:	PeC	O Horizon Thickness:	3"

Test Pit	EXTP-RS-2	Hydric (y/n)	N
Soil Name:	Peru sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1				
	2	sandy loam	friable	10YR 5/2	
	3				
	4				
Bhs	5	fine sandy loam	friable	5YR 4/4	none observed
	6				
	7				
Bs_1	8	very fine sandy loam	friable	7.5YR 4/4	
	9				
	10				
	12				
	14				
	16				
Bs_2	18	loam	friable	10YR 5/4	
	20				
	25				
BC	30	fine sandy loam	friable	2.5Y 5/4	cmd 5YR 5/2
Cd_1	35	fine sandy loam	firm	2.5Y 5/4	
	40				
	45				
	50				
Cd_2	55	fine sandy loam	very firm	2.5Y 4/3	
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Roger St.Amand	Date:	11/20/18
			License #:	#SS471

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	PeC	O Horizon Thickness:	3"

Test Pit	EXTP-RS-3	Hydric (y/n)	N
Soil Name:	Peru sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	sandy loam	friable	10YR5/2	
	2				
Bs1	3				
	4				
	5				none
	6	sandy loam	friable	7.5YR4/6	observed
	7				
	8				
	9				
	10				
Bs2	12				
	14	fine sandy loam	friable	2.5Y5/4	
	16				
	18				
	20				
BC	25	fine sandy loam	firm	2.5Y5/3	cmd 5Y5/2
	30				fmp 10YR4/6
Cd1	35	coarse sandy loam	very firm	5Y4/3	
Cd2	40				
	45	very			
	50	stony sandy loam	very firm	5Y4/3	
	55				
	60				
	65				
	70				
	75				
	80			LLI	= 80"

Symbol:	PeB	O Horizon Thickness:	2"

Test Pit	EXTP-RS-4	Hydric (y/n)	N
Soil Name:	Peru sandy loam, Stony		

Horiz	0	Texture	Consistency	Color	Mottling
E	1				
	2	sandy loam	friable	10YR5/2	
	3				
	4				
Bs1	5				none
	6				observed
	7	sandy loam	friable	7.5YR4/4	
	8				
	9				
	10				
	12				
Bs2	14	coarse gravelly loamy sand	friable	10YR4/4	
	16				
	18				
BC	20	stony sandy loam	friable	2.5Y5/4	
Cd1	25	sandy loam	firm	2.5Y4/4	fmp 10YR4/6
	30				cmf 2.5Y4/2
Cd2	35				
	40				
	45	fine			
	50	sandy loam	firm	2.5Y4/3	none
	55				observed
	60				
	65				
	70				
	75				
	80				84"

C.S.S.	Name:	Roger St.Amand	Date:	11/20/18
			License #:	#SS471

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	PeB	O Horizon Thickness:	3"

Test Pit	EXTP-RS-5	Hydric (y/n)	N
Soil Name:	Peru sandy loam, stony		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	fine			
	2	sandy	friable	10YR 5/2	
	3	loam			
Bs1	4				
	5				none
	6	fine	friable	7.5YR 4/4	observed
	7	sandy			
	8	loam			
	9				
Bs2	10				
	12				
	14	fine	friable	2.5Y 5/4	
	16	sandy			
	18	loam			
	20				
BC	25	gravelly coarse	friable	2.5Y 4/4	emd 5Y 6/2
	30	sandy loam			cmp 10YR 4/6
Cd1	35				
	40	sandy			
	45	loam	very	2.5Y 4/3	
	50	(finer	firm		
	55	textured lenses)			
	60				
	65				
	70				
	75				
	80			LL1=	60"

Test Pit	EXTP-RS-6	Hydric (y/n)	N
Soil Name:	Peru sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	sandy	friable	10YR 4/2	
	2	loam			
Bhs	3				
	4	sandy	friable	5YR 4/4	
	5	loam			none
	6				observed
Bs	7				
	8				
	9	sandy	friable	2.5Y 5/4	
	10	loam			
	12				
	14				
BC	16				
	18	sandy	friable		
	20	loam		2.5Y 4/4	
	25				
	30				
Cd1	35				
	40				
	45				
	50	sandy	very	5Y 5/3	
	55	loam	firm		
	60				
	65	(30% rotten rock)			
	70				
	75				
	80				

C.S.S.	Name:	Roger St.Amand	Date:	11/20/18
			License #:	#SS471

STATE OF MAINE
ROGER R. ST. AMAND
#471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	RLB	O Horizon Thickness:	4"

Test Pit	EXTP-RS-7	Hydric (y/n)	N
Soil Name:	Roundabout coarse sandy loam, var		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2	coarse			
E	3	sandy	friable	10YR5/2	
	4	loam			
	5				
Bhs	6	fine	friable	5YR3/3	none
	7	sandy loam			observed
	8	fine			
Bs	9	sandy	friable	10YR4/4	
	10	loam			
	12				cmf 2.5Y5/2
BC	14	silt	friable	2.5Y5/3	cmp 10YR4/6
	16	loam			
	18				
	20				
	25				mmp
Cd	30	silt	very	5Y5/2	5Y6/1
	35	loam	firm		cmp
	40				10YR4/4
	45				
	50	coarse	p/o		
2Cdz	55	gravelly loamy sand	cemented	2.5Y4/4	
	60		p/o loose		
	65				
	70				
	75				
	80			LL1=	60"

Symbol:	PeC	O Horizon Thickness:	3"

Test Pit	EXTP-RS-8	Hydric (y/n)	N
Soil Name:	Peru fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	fine	friable	10YR4/2	
	2	sandy loam			
	3				
	4				
	5				
Bs1	6	fine	friable	7.5YR4/4	none
	7	sandy			observed
	8	loam			
	9				
	10				
	12				
	14				
	16	very			
Bs2	18	fine	friable	10YR4/6	
	20	sandy			
	25	loam			
	30	gravelly	friable		fmd 10YR4/4
2BC	35	sandy loam		2.5Y4/4	fmd 5Y5/3
	40				
	45				
	50	fine	firm	2.5Y4/4	
2Cd	55	sandy			
	60	loam			
	65				
	70				
	75				
	80				80"

C.S.S.	Name:	Roger St.Amand	Date:	11/20/18
			License #:	#SS471

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	PeA	O Horizon Thickness:	3"

Test Pit	EXTP-RS-9	Hydric (y/n)	N
Soil Name:	Peru fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	fine	friable	10YR4/2	
	2	sandy loam			
Bs1	3				
	4				
	5				
	6	fine	friable	7.5YR4/6	none
	7	sandy			observed
	8	loam			
	9				
	10				
	12				
Bs2	14				
	16	fine	friable	2.5Y5/4	
	18	sandy			
	20	loam			
BC	25	fine	friable	2.5Y5/3	mmd 5Y6/2
	30	sand			
Cd1	35	fine	firm	2.5Y5/3	mmp 10YR4/6
	40	sandy loam			
Cd2	45				
	50	fine			
	55	sandy	firm	5Y5/3	none
	60	loam			observed
	65				
	70				
	75				
	80			LL1 = 72"	

Test Pit	EXTP-RS-10	Hydric (y/n)	N
Soil Name:	Colonel fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	fine	friable	10YR4/2	
	2	sandy loam			
Bhs	3				
	4	gravelly			
	5	sandy	friable	5YR3/3	
	6	loam			
	7				none observed
Bs1	8	gravelly			
	9	sandy	friable	7.5YR4/4	
	10	loam			
Bs2	12				cmd
	14	sandy	friable	10YR4/4	
	16	loam			cmp
	18				seeping @ 20"
Cd1	20				cmd
	25	coarse			5Y6/2
	30	sandy	firm	5Y4/3	cmp
	35	loam			10YR4/6
	40				
Cd2	45				
	50				fmp
	55	fine	firm	5Y5/3	10YR4/6
	60	sandy			
	65	loam			
	70				
	75				
	80				72"

C.S.S.	Name:	Roger St.Amand	Date:	11/20/18
			License #:	#SS471

MAINE ROGER R. ST. AMAND #471 CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	MoC	O Horizon Thickness:	3"

Test Pit	EXTP-RS-11	Hydric (y/n)	N
Soil Name:	Monadnock fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3	fine	friable	10YR4/2	
E	4	sandy			
	5	loam			
	6				none
Bhs	7	sandy	friable	5YR 3/4	observed
	8	loam			
	9	gravelly			
Bs	10	sandy	friable	7.5YR4/4	
	12	loam			
	14				
	16	gravelly			
	18	coarse			
Bs2	20	sandy	friable	10YR4/6	
	25	loam			
	30	(15% cobble)			
	35				
	40				
	45	gravelly			
C	50	coarse	firm	2.5Y5/3	
	55	loamy			
	60	sand			
	65				
	70				
	75				
	80			LLI=80"	

Symbol:	ScA	O Horizon Thickness:	4"

Test Pit	EXTP-RS-12	Hydric (y/n)	Y
Soil Name:	Scantic silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
A	2	loam	friable	10YR3/3	none observed
	3				
	4				
	5				
	6	silt	friable	5Y5/3	cmp
Bw	7	loam			cmf
	8				
	9				
	10				
	12				
BC	14	silt loam	friable	5Y5/3	
	16				
	18				
	20				
	25	silty	very		
Cg	30	clay	firm	5Y5/2	none
	35	loam			observed
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Roger St.Amand	Date:	11/20/18
			License #:	#SS471

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	SKB	O Horizon Thickness:	6"

Test Pit	EXTP-RS-13	Hydric (y/n)	N
Soil Name:	Skerry Sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1				
	2				
	3	sandy	friable	10YR 5/2	
	4	loam			
	5				
	6				none
Bhs	7				observed
	8	fine	friable	7.5YR 4/4	
	9	sandy			
	10	loam			
	12				
Bs	14	fine	friable	10YR 4/6	
	16	sandy loam			
B	18	very			
	20	fine	friable	2.5Y 5/3	cmd
	25	sandy			
	30	loam			
Cd1	35	gravelly loamy sand	firm	2.5Y 5/3	
Cd2	40				
	45				
	50	gravelly			
	55	loamy	firm	5Y 4/4	
	60	sand			
	65	to			
	70	coarse			
	75	sandy			
	80	loam		LL =	84"

Symbol:	MoD	O Horizon Thickness:	2"

Test Pit	EXTP-RS-14	Hydric (y/n)	N
Soil Name:	Monadnock sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1				
	2	sandy	friable	10YR 5/2	
	3	loam			
Bhs	4				
	5	sandy			
	6	loam	friable	7.5YR 4/6	
	7				none
	8				observed
Bs1	9				
	10				
	12	sandy	friable	10YR 4/6	
	14	loam			
	16				
	18				
	20				
	25				
Bs2	30	gravelly			
	35	loamy	friable	2.5Y 3/4	
	40	sand			
C	45				fm
	50	loamy	loose	2.5Y 4/4	
	55	sand			
	60				
	65				
	70				
	75				
	80				80"

C.S.S.	Name:	Roger St.Amand	Date:	11/20/18
			License #:	#SS471

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	SkD	O Horizon Thickness:	3"

Test Pit	EXTP-RS-15	Hydric (y/n)	N
Soil Name:	Skerry sandy loam, VAR.		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
E	2	sandy	friable	10YR5/2	
	3	loam			
	4				
	5				none
Bhs	6	sandy	friable	7.5YR4/4	observed
	7	loam			
	8				
	9				
	10				
Bs1	12	fine	friable	10YR4/6	
	14	sandy			
	16	loam			
	18				
Bs2	20	sandy loam	friable	10YR4/4	
	25				
	30	sandy			fmp 7.5YR4/4
BC	35	loam	friable	2.5Y5/3	cmd
	40				
	45				
	50				
	55	gravelly			
2C	60	loamy	loose	2.5Y4/4	
	65	sand			
	70				
	75				
	80			LL1 =	80"

Symbol:	LuB	O Horizon Thickness:	3"

Test Pit	EXTP-RS-16	Hydric (y/n)	Y
Soil Name:	Scantic silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
A/E	1	loam	friable	10YR4/2	none
	2				observed
	3				fmp
	4				7.5YR4/6
Bs1	5	silt	friable	10YR5/4	
	6	loam			
	7				
	8				
	9				mmp 7.5YR4/6
Bs2	10	silt		2.5Y5/3	
	12	loam			cmd 5YR6/2
	14				
	16	silt		5Y5/3	cmd 5Y6/2
BC	18	loam	firm		mmp 10YR4/4
	20				
	25	silt	firm	5Y5/2	cmp 7.5YR3/2
C1	30	loam			fmp 10YR4/6
	35				
	40				
	45	silty	very		
C2	50	clay	firm	5Y4/2	
	55	loam			
	60				
	65				
	70				
	75				
	80				80"

C.S.S.	Name:	Roger St.Amand	Date:	11/21/18
			License #:	#SS471

STATE OF MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	SkC	O Horizon Thickness:	2"

Test Pit	EXTP-RS-17	Hydric (y/n)	N
Soil Name:	Roundabout fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	fine	friable	10YR 4/2	
	2	sandy loam			
Bs	3				
	4	very			
	5	fine	friable	10YR 4/6	none
	6	sandy			observed
	7	loam			
	8				
	9				
	10				
	12				
	14				
BC	16	silt	friable	2.5Y 5/3	cmp
	18	loam			10YR 4/6
C_1	20	very			
	25	fine	friable	2.5Y 5/3	
	30	sandy			
	35	loam			
C_2	40				
	45				
	50	loamy	friable	2.5Y 4/4	cmd
	55	fine			5Y 6/2
	60	sand			Fmp
	65				10 YR 4/4
	70				
	75				
	80			LL =	80"

Test Pit	EXTP RS-18	Hydric (y/n)	N
Soil Name:	Herman sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1				
	2	sandy	friable	10YR 5/2	
	3	loam			
	4				
	5				
	6				none
Bhs	7	sandy	friable	5YR 3/4	observed
	8	loam			
Bs_1	9				
	10	sandy	friable	7.5YR 4/6	
	12	loam			
	14				
Bs_2	16	loamy			
	18	fine	friable	2.5Y 5/4	
	20	sand			
BC	25	loamy	friable	2.5Y 5/3	
	30	very fine sand			
C	35				
	40				
	45	gravelly	friable	2.5Y 5/3	
	50	fine			
	55	sand			
	60				
	65				
	70				
	75				
	80				90"

C.S.S.	Name:	Roger St.Amand	Date:	11/21/18
			License #:	#SS471

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LaB	O Horizon Thickness:	4"

Test Pit	EXTP-RS-19	Hydric (y/n)	N
Soil Name:	Swanton gravelly loamy sand		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	gravelly loamy sand	friable	10YR4/2	
	2				
	3				
Bhs	4	gravelly coarse sandy loam	friable	5YR3/3	none observed
	5				
	6				
	7				
Bs_1	8	gravelly coarse loamy sand	friable	5YR4/3	cmf 5YR5/3
	9				
	10				
	12				
	14				
	16				
Bs_2	18	gravelly loamy sand	loose	5YR3/4	cmp 10YR4/2
	20				
	25				
	30				
2C1	35	silt loam	v.firm	5Y5/2	cmp 10YR4/6 cmf 5Y6/2
	40				saturated @ 28"
	45				
$2C_2$	50	silty clay loam	very firm	10Y5/1	
	55				
	60				
	65				
	70				
	75				
	80			LL1 =	80"

Symbol:	SKC	O Horizon Thickness:	2"

Test Pit	EXTP-RS-20	Hydric (y/n)	N
Soil Name:	Hermon gravelly sandy loam, stony		

Horiz	0	Texture	Consistency	Color	Mottling
E	1				
	2	sandy loam	friable	10YR5/2	
	3				
	4				none observed
Bhs	5				
	6	gravelly sandy loam	friable	7.5YR4/4	
	7				
	8				
	9				
	10				
	12				
Bs	14	gravelly sandy loam	friable	10YR5/4	
	16				
	18				
	20				
	25	very stony			
	30				
	35	gravelly loamy sand	loose	5Y5/3	
	40				
	45				
	50				
	55				
	60	gravelly loamy sand		5Y5/3	
	65				
	70				
	75				
	80				72"

C.S.S.	Name:	Roger St.Amand	Date:	11/21/18
			License #:	#SS471

MAINE ROGER R. ST. AMAND #471 CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	MuC	O Horizon Thickness:	6"

Test Pit	EXTP-RS-21	Hydric (y/n)	N
Soil Name:	Colonel stony sandy loam, V. Bolder variant		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	stony			
	2	sandy	friable	10YR4/1	
	3	loam			
Bhs	4				
	5	sandy	friable	5YR4/4	none
	6	loam			observed
	7				
Bs	8				
	9	Cobbley	friable	7.5YR4/4	
	10	sandy			
	12	loam			
	14				
BC	16	fine			cfd 5Y6/2
	18	sandy	friable	2.5Y5/3	ffp 10YR 4/6
	20	loam			
	25				
C1	30	rotten	friable		
	35	rock	←	→	
	40	(Gravelly)			
C2	45				
	50	gravelly			
	55	sandy	friable	2.5Y4/4	cfd
	60	loam			5Y 5/2
	65				
	70				
	75				
	80			LL = 70"	

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	MuC	O Horizon Thickness:	3"

Test Pit	EXTP-RS-22	Hydric (y/n)	N
Soil Name:	Monadnock sandy loam, var		

Horiz	0	Texture	Consistency	Color	Mottling
A	1	sandy	friable	10YR3/2	
	2	loam			
Bs1	3				
	4				
	5				
	6	sandy	friable	7.5YR4/4	
	7	loam			
	8				
	9				
	10				
	12				
Bs2	14	gravelly			
	16	sandy	friable	2.5Y5/4	
	18	loam			
C1	20				
	25	gravelly			
	30	sandy	firm		
	35	loam	in		
	40		place		
C2	45				
	50	cobbley			
	55	coarse	firm	2.5Y5/3	cmp
	60	sandy	in		
	65	loam	place		
	70				
	75				
	80				

C.S.S.	Name:	Roger St.Amand	Date:	11/21/18
			License #:	#SS471

MAINE
ROGER R. ST. AMAND
#471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LaB	O Horizon Thickness:	3"

Test Pit	EXTP-RS-23	Hydric (y/n)	N
Soil Name:	Lamoine silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
A	1				
	2	loam	friable	10YR 3/3	
	3				
Bw	4				none
	5				observed
	6	silt	friable	2.5Y 5/4	
	7	loam			
	8				
	9				
	10				
Bw2	12				
	14	silt	friable	2.5Y 5/3	cmp
	16	loam			10YR 4/6
	18				
BC	20				mmp
	25	silt	firm	2.5Y 5/3	many
	30	loam			staining
C	35				
	40				
	45				
	50	silty	very	5Y 4/3	
	55	clay	firm		
	60	loam			
	65				
	70				
	75				seeping @ 83"
	80			LLI =	85"

Test Pit	EXTP-RS-24	Hydric (y/n)	N
Soil Name:	Lamoine silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
A	1	silt	friable	10YR 3/3	
	2	loam			
Bw1	3				
	4				none
	5	silt			observed
	6	loam	friable	10YR 4/4	
	7				
	8				
	9				
Bw2	10				
	12				mcd
	14	silt	friable	2.5Y 5/3	5Y 6/2
	16	loam			
	18				
BC	20	silt	friable	5Y 5/3	cmd
	25	loam			
	30				
C2	35				
	40				
	45				none
	50	silty	very	5Y 4/3	observed
	55	clay	firm		
	60	loam			
	65				
	70				
	75				
	80				80"

C.S.S.	Name:	Roger St.Amand	Date:	11/21/18
			License #:	#SS471

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LaB	O Horizon Thickness:	2

Test Pit	EXTP-RS-25	Hydric (y/n)	N
Soil Name:	Lamoine silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
A	1	loam	friable	10YR 3/2	
	2				
Bw1	3				
	4				none
	5	silt			observed
	6	loam	friable	10YR 4/4	
	7				
	8				
	9				
Bw2	10				cmd
	12				
	14	silt	friable	7.5Y 5/3	
	16	loam			
	18				
	20				
C1	25				cmp
	30				
	35	silt	firm	5Y 5/3	
	40	loam			fmd
	45				
	50				
	55				
	60				
C2	65				
	70	silty	v. firm	5Y 4/3	
	75	clay			
	80	loam		LL=60"	

Symbol:	BuB	O Horizon Thickness:	3"

Test Pit	EXTP-RS-26	Hydric (y/n)	N
Soil Name:	Elmwood fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
Bhs	1				
	2	fine	friable	5YR 4/4	
	3	sandy			
	4	loam			
Bs1	5				
	6				none
	7	fine			observed
	8	sandy	friable	7.5YR 4/6	
	9	loam			
	10				
Bs2	12				
	14	fine	friable	10YR 5/4	
	16	sandy			
	18	loam			
BC	20				
	25				cmd 5Y 6/2
	30	loamy	loose	2.5Y 5/4	
	35	fine			silt loam
	40	sand			lenses 2.5Y 5/3
	45				
C1	50				cmd
	55	silt	firm	5Y 5/3	
	60	loam			
C2	65				many
	70	silty	very	5Y 4/3	staining
	75	clay	firm		
	80	loam			80"

C.S.S.	Name:	Roger St.Amand	Date:	11/21/18
			License #:	#SS471

MAINE ROGER R. ST. AMAND 471 CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LaB	O Horizon Thickness:	6"
Test Pit	EXTP-RS-27	Hydric (y/n)	N
Soil Name:	Lamoine loam		

Horiz	0	Texture	Consistency	Color	Mottling
A	1				
	2	loam	friable	10YR3/3	
	3				
Bhs	4				none
	5	loam	friable	10YR4/6	obsenved
	6				
Bw	7				
	8	loam →			
	9	silt	friable	2.5Y 5/6	
	10	loam			
	12				
BC	14	silt	friable	2.5Y5/3	cmd
	16	loam			5Y 5/2
	18				
C	20	silt			cmd 5Y 6/2
	25	loam	firm	5Y5/3	
	30				
Cg	35				seeping @ 30"
	40				
	45	silty			
	50	clay	firm	5Y4/3	
	55	loam			
	60				
	65				
	70				
	75				
	80			LL = 90"	

Symbol:	LaB	O Horizon Thickness:	3"
Test Pit	EXTP-RS-28	Hydric (y/n)	N
Soil Name:	Lamoine silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
A	1				
	2				
	3	loam	friable	10YR3/3	
	4				none
	5				obsenved
Bw1	6				
	7				
	8	silt	friable	10YR4/6	
	9	loam			
	10				
	12				
Bw2	14	silt loam	friable	2.5Y 5/3	ff
BC	16				cmp
	18	silt			10YR 4/6
	20	loam	firm	2.5Y 4/3	cmd
	25				5Y6/2
	30				
C	35				
	40	silty	firm	5Y 4/3	
	45	clay			
	50	loam			
	55				
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Roger St.Amand	Date:	11/21/18
			License #:	#SS471

ROGER R. ST. AMAND #471 CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	BuB	O Horizon Thickness:	3"
Test Pit	EXTP-RS-29	Hydric (y/n)	N
Soil Name:	Buxton gravelly fine sandy loam, variant		

Horiz	0	Texture	Consistency	Color	Mottling
A	1	gravelly loam	friable		
	2				
	3				
Bs	4				
	5				
	6	gravelly fine sandy loam	friable	7.5YR4/4	
	7				
	8				
	9				
	10				
	12				
Bw	14				
	16	silt loam	friable	2.5Y5/4	
	18				
	20				
C1	25				
	30	silt loam	firm	5Y5/3	mmp 10YR 10YR4/6
	35				
	40				cmd 5Y6/2
	45				
C2	50				
	55				
	60	silty clay loam	very firm	5Y4/3	
	65				
	70				
	75				
	80			LL =	84"

Test Pit	EXTP-RS-30	Hydric (y/n)	N
Soil Name:	Burton silt loam, variant		

Horiz	0	Texture	Consistency	Color	Mottling
A	1				
	2				
	3	silt loam	friable	10YR3/3	
	4				
	5				
	6				
Bw1	7				
	8				none
	9	silt loam	friable	10YR4/6	observed
	10				
	12				
	14				
	16				
	18				
Bw2	20	gravelly silt loam	friable	2.5Y 3/4	
	25				
	30				
	35				
C	40				
	45	rotten rock	firm		
	50				
	55				
	60				
	65				
	70				
	75				
	80				60"

C.S.S.	Name:	Roger St.Amand	Date:	11/21/18
			License #:	#SS471

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	SkC	O Horizon Thickness:	5"

Test Pit	EXTP-RS-31	Hydric (y/n)	N
Soil Name:	Skerry fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2	fine	friable	10YR4/2	
A/E	3	sandy			
	4	loam			
	5				
	6				
	7	fine	friable	10YR4/6	
B_{s1}	8	sandy			
	9	loam			
	10				
	12				
	14				
	16	gravelly			
B_{s2}	18	sandy	friable	7.5Y5/4	
	20	loam			
	25				
	30				
	35				
	40	gravelly	firm		
C	45	loamy	in	5Y5/3	cf
	50	sand	place		
	55				
	60				
	65				
	70				
	75				
	80			LLI =	60"

Symbol:	near MoC	O Horizon Thickness:	3"

Test Pit	EXTP.RS-32	Hydric (y/n)	NO
Soil Name:	Monadnock fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
A	1	loam	friable	10YR3/2	
	2				
	3				
	4				
	5				
B_{w1}	6	loam	friable	10YR4/6	
	7				none
	8				observed
	9				
	10				
	12				
	14				
B_{w2}	16	loam	friable	10YR4/4	
	18				
	20				
	25	gravelly		10YR4/4	
	30	sandy loam			
	35				
	40	very			
	45	gravelly	loose	10YR4/4	
	50	loamy			
	55	sand			
	60				
	65				
	70				
	75				
	80				60"

C.S.S.	Name:	Roger St.Amand	Date:	11/21/18
			License #:	#SS471

STATE OF MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LaB	O Horizon Thickness:	3
Test Pit	HTB-RS-33	Hydric (y/n)	N
Soil Name:	Lamoine silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2	silt	friable		
A	3	loam			
	4				
	5				none
	6				observed
	7				
Bw	8	silt	friable	2.5Y 5/4	
	9	loam			
	10				
	12				
	14				
BC	16	silt	firm	2.5Y 5/3	cmd
	18	loam			
	20	silty	very	5Y 5/3	cmd
Cg	25	clay loam	firm		
	30				
	35				
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80			LLI=	24"

Symbol:	SkB	O Horizon Thickness:	3
Test Pit	EXTP-RS-34	Hydric (y/n)	N
Soil Name:	Skerry fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1	fine			
A/E	2	sandy	friable	10YR 3/2	
	3	loam			
	4				
	5	fine			
Bw	6	sandy	friable	10YR 4/4	none
	7	loam			observed
	8				
	9	fine			
E2	10	sandy loam	friable	10YR 6/2	
	12	gravelly			
	14	fine	friable	10YR 4/6	
Bs1	16	sandy			
	18	loam			
Bs2	20	fine sandy loam	friable	2.5Y 5/4	
BC	25	fine sandy loam	firm	2.5Y 5/4	cmd 10YR 4/6 cmd 5Y 5/2
	30				
	35				
	40	gravelly			
Cd	45	loamy	firm	5Y 5/3	
	50	sand			
	55				
	60	(with			
	65	lenses)			
	70				
	75				
	80				96"

C.S.S.	Name:	Roger St.Amand	Date:	11/23/18
			License #:	#SS471

MAINE ROGER R. ST. AMAND 471 CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LaB	O Horizon Thickness:	3"

Test Pit	EXTP-RS-35	Hydric (y/n)	N
Soil Name:	Lamoine silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
A	1	silt loam	friable	10YR3/2	
	2				
	3				
Bw	4				
	5				none observed
	6	silt loam	friable	2.5Y4/4	
	7				
	8				
	9				
	10				
	12				
BC	14	silt loam	friable	2.5Y5/3	cmd
	16				
C1	18				
	20	silt loam	firm	5Y5/3	cmp
	25				
	30				
	35				
C2	40				
	45				
	50	silty clay loam	very firm	5Y4/3	none observed
	55				
	60				
	65				
	70				
	75				
	80			LLI = 80"	

Test Pit	EXTP-RS-36	Hydric (y/n)	N
Soil Name:	Stony fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	fine sandy loam	friable	7.5YR5/1	
	2				
	3				
Bs1	4				
	5	fine sandy loam	friable	10YR4/6	
	6				none observed
	7				
Bs2	8				
	9				
	10				
	12	sandy loam	friable	2.5Y5/4	
	14				
	16				
	18				
	20				
BC	25	gravelly LS	friable	2.5Y5/3 cmp 7.5YR and 5/3/2	
Cdg	30				
	35				
	40	gravelly loamy sand	very firm	5Y4/4	
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				72"

C.S.S.	Name:	Roger St.Amand	Date:	11/23/18
			License #:	#SS471

MAINE ROGER R. ST. AMAND #471 CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LaB	O Horizon Thickness:	4"

Test Pit	EXTP-RS-37	Hydric (y/n)	N
Soil Name:	Lamoine silt loam,		

Horiz	0	Texture	Consistency	Color	Mottling
A	1				
	2	silt loam	friable	10YR3/2	
	3				
Bw1	4				none observed
	5	silt			
	6	loam	friable	2.5Y4/4	
	7				
	8				
Bw2	9				
	10	silt	friable	2.5Y5/3	
	12	loam			
	14				
BC	16	silt loam		2.5Y5/3	cmd
	18				
C	20	silty	very		cmp 10YR4/6
	25	clay	firm	5Y5/3	cmf 5Y6/2
	30	loam			
	35				
	40				
	45	(Light silty clay loam Sinto			
	50	Rushton series)			
	55				
	60				
	65				
	70				
	75				
	80			LLI = 33"	

Test Pit	EXTP-RS-38	Hydric (y/n)	N
Soil Name:	Lamoine silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
A	1	silt	friable	10YR3/3	
	2	loam			
Bw1	3				
	4	silt loam	friable	10YR4/4	none observed
	5				
Bw2	6				
	7	silt			
	8	loam	friable	2.5Y4/4	
	9				
	10				
BC	12	silt	firm	2.5Y5/3	fmd fmf
	14	loam			
C1	16				
	18	silt			
	20	loam	friable	5Y5/3	cmp
	25				
	30				
	35				
C2	40				
	45				
	50	silty	very	5Y4/3	
	55	clay	firm		
	60	loam			
	65				
	70				
	75				
	80				44" to 78"

C.S.S.	Name:	Roger St.Amand	Date:	11/23/18
			License #:	#SS471

ROGER R. ST. AMAND 471 CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LuB	O Horizon Thickness:	4"

Test Pit	EXTP-RS-39	Hydric (y/n)	N
Soil Name:	Lamoine silt loam, ex bouldery		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	silt	friable	10YR4/2	
	2	loam			
Bs1	3				none
	4				observed
	5	silt	friable	10YR4/6	
	6	loam			
	7				
Bs2	8				
	9				
	10	silt	friable	7.5Y4/4	
	12	loam			
	14				
BC	16				
	18	silt			cmp 7.5YR4/6
	20	loam	friable	5Y5/3	cmf 5Y6/2
	25				
C1	30	silt	very	5Y5/2	
	35	loam	firm		
C2	40				
	45				
	50	silty	very	5Y4/3	
	55	clay	firm		
	60	loam			
	65				
	70				
	75				
	80			LL = 72"	

Test Pit	EXTP-RS-40	Hydric (y/n)	N
Soil Name:	Roundabout silt loam, gvr.		

Horiz	0	Texture	Consistency	Color	Mottling
E	1				
	2	silt loam	friable	10YR4/2	
	3				
Bs	4				
	5				
	6	silt	friable	10YR4/6	
	7	loam			
	8				
	9				
Bw	10				
	12				
	14	silt			
	16	loam	friable	7.5Y5/4	
	18				
	20				
	25				
C1	30	silt		7.5Y5/3	cmd
	35	loam			
C2	40	grav. LS			
C3	45	silt loam		7.5Y4/4	
	50				
2C	55				
	60	gravelly	loose		
	65	medium			
	70	sand			
	75				
	80				LL = 70"

C.S.S.	Name:	Roger St.Amand	Date:	11/23/18
			License #:	#SS471

MAINE ROGER R. ST. AMAND #471 CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LaB	O Horizon Thickness:	3"

Test Pit	EXTP-RS-41	Hydric (y/n)	N
Soil Name:	Lamoine silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
A/E	1	silt loam	friable	10YR3/2	
	2				
	3				
	4				none
	5				obsewed
Bw,	6	silt	friable	10YR4/4	
	7	loam			
	8				
	9				
	10				
	12				cmd
Bw2	14	silt loam	friable	2.5Y5/3	5Y6/2
	16				
	18				cmd
C,	20	silt	firm		5Y6/2
	25	loam			cmd 10YR4/4
	30				
	35				
	40				
	45				
C2	50	silty	very	2.5Y4/3	
	55	clay	firm		
	60	loam			
	65				
	70				
	75				
	80			LL=	80"

Symbol:	PeC	O Horizon Thickness:	3"

Test Pit	HTB-RS-42	Hydric (y/n)	N
Soil Name:	Peru fine sandy loam, v. bouldery		

Horiz	0	Texture	Consistency	Color	Mottling
	1	fine			
E	2	sandy	friable	10YR5/2	
	3	loam			
	4				
	5				none
	6	fine			obsewed
Bs,	7	sandy	friable	7.5YR4/4	
	8	loam			
	9				
	10				
	12				
	14				
	16	sandy			
Bs2	18	loam	friable	10YR4/4	
	20				
	25				
BC	30	sandy	friable	2.5Y5/4	cmd 5Y6/2
	35	loam			
	40		firm		
C	45	Sandy			
	50	loam			
	55				
	60				
	65				
	70				
	75				
	80				80"

C.S.S.	Name:	Roger St.Amand	Date:	11/23:26/18
			License #:	#SS471

ROGER R. ST. AMAND 471 CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	PeB	O Horizon Thickness:	0"

Test Pit	HTB-RS-43	Hydric (y/n)	N
Soil Name:	Peru fine sandy loam VAR. v. bridery		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	fine	friable	10YR 5/2	
	2	sandy loam			
	3				
	4				
	5				none
	6	fine			observed
Bs1	7	sandy	friable	7.5YR 4/4	
	8	loam			
	9				
	10				
	12				
	14				
Bs2	16	fine	friable	10YR 4/4	
	18	sandy			
	20	loam			
	25	silt	firm	2.5Y 5/3	
C	30	loam			
	35		firm		
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80			LLI =	30"

Test Pit	HTB-RS-44	Hydric (y/n)	N
Soil Name:	Peru fine sandy loam VAR, stony		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	fine	friable	10YR 5/2	
	2	sandy loam			
	3				
	4				
	5				
	6	fine	friable	7.5YR 4/4	none
Bs1	7	sandy			observed
	8	loam			
	9				
	10				
	12				
	14	fine			
Bs2	16	sandy	friable	10YR 4/4	
	18	loam			
	20				
	25	silt	firm	7.5Y 5/3	
C	30	loam			
	35		firm		
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Roger St.Amand	Date:	11/26/18
			License #:	#SS471

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	MPB	O Horizon Thickness:	3"

Test Pit	HTP-RS-45	Hydric (y/n)	N
Soil Name:	Monadnock fine sandy loam Stony		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	fine	friable	10YR5/2	
	2	sandy loam			
Bhs	3				
	4	fine			none
	5	sandy	friable	7.5YR 3/4	observed
	6	loam			
	7				
	8				
Bs1	9				
	10	very			
	12	fine	friable	10YR 4/4	
	14	sandy			
	16	loam			
	18				
Bs2	20	silt	friable	7.5Y 5/4	
	25	loam			
C1	30	loamy	friable	2.5Y 4/4	
	35	fine sand			
C2	40	gravelly			
	45	coarse	loose	2.5Y 5/4	
	50	sand			
	55				
	60				
	65				
	70				
	75				
	80			LLI=	60"

Symbol:	outside AOI	O Horizon Thickness:	3"

Test Pit	HTP-RS-46	Hydric (y/n)	N
Soil Name:	Hermon sandy loam, very bouldery		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	sandy	friable	10YR5/2	
	2	loam			
Bs1	3				
	4				
	5				
	6	sandy	friable	10YR4/6	none
	7	loam			observed
	8				
	9				
	10				
	12				
Bs2	14	coarse	friable	2.5Y5/4	
	16	sandy loam			
	18				
BC	20	gravelly	loose	2.5Y4/4	
	25	loamy			
	30	sand			
C	35	gravelly	loose	2.5Y4/4	
	40	coarse sand			
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				60"

C.S.S.	Name:	Roger St.Amand	Date:	11/26/18
			License #:	#SS471

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	Outside AOI	O Horizon Thickness:	4"

Test Pit	HTB-RS-47	Hydric (y/n)	N
Soil Name:	Croghan loamy fine sand bouldery		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	loamy	friable	7.5Y6/2	
	2	fine sand			
Bs1	3				
	4				
	5	loamy	friable	7.5YR5/8	
	6	fine			
	7	sand			
	8				none
Bs2	9				observed
	10				
	12	loamy			
	14	fine	friable	10YR5/8	
	16	sand			
	18				
	20				
	25				
BC	30	loamy	friable	10YR5/4	
	35	fine sand			cmd
C1	40	vf loamy sand	firm ip	2.5Y5/4	fmf
C2	45	loamy fine sand	friable	2.5Y5/4	
2C	50	gravelly			
	55	coarse	loose	single	
	60	sand		grain	
	65				
	70				
	75				
	80			LL1 = 66"	

Symbol:	CyB	O Horizon Thickness:	2

Test Pit	HTB-RS-48	Hydric (y/n)	N
Soil Name:	Croghan gravelly sandy loam, VAR. stony		

Horiz	0	Texture	Consistency	Color	Mottling
Bhs	1				
	2	gravelly			
	3	sandy	friable	5YR3/4	
	4	loam			
	5				
	6				none
Bs	7				observed
	8	gravelly			
	9	sandy	friable	7.5YR4/4	
	10	loam			
	12				
	14				
Bw	16	gravelly	friable	10YR4/4	
	18	loamy fine sand			
C	20	loamy			cfd
	25	fine	firm	2.5Y5/3	5Y6/2
	30	sand			
	35				
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				WATER @ 80"

C.S.S.	Name:	Roger St.Amand	Date:	
			License #:	#SS471

ROGER R. ST. AMAND 471 SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	near HcB	O Horizon Thickness:	—

Test Pit	HTB-RS-49	Hydric (y/n)	N
Soil Name:	Hermon Sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2	TOPSOIL REMOVED IPIT			
	3				
	4	Coarse			
	5	Sandy	friable	2.5Y 4/4	
	6	loam	to		
	7		Loose		
B	8				
	9				none
	10				observed
	12				
	14				
	16	Coarse			
	18	gravelly	Loose	2.5Y 4/4	
C	20	loamy			
	25	sand			
	30				
	35				
	40	Exposed gravel pit face			
	45	by access road, disturbed			
	50	upper horizons SAMPLED			
	55				
	60				
	65				
	70				
	75				61-60"+
	80				

Test Pit	HTP-RS-50	Hydric (y/n)	Y
Soil Name:	Scantic silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2	silt	friable	2.5Y 4/2	none
A	3	loam			observed
	4				
	5				
	6				
	7	silt	friable	2.5Y 5/3	cmp 10YR 4/6
Bg	8	loam			cmd
	9				5Y 6/2
	10				
	12				
	14				
	16	silty			mmp
	18	clay	firm	5Y 5/3	10YR 4/4
Cg	20	loam			mmd
	25				5Y 6/1
	30				
	35				
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Roger St.Amand	Date:	
			License #:	#SS471

LAND & SOIL
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	PeC	O Horizon Thickness:	3"
Test Pit	HTB-RS-51	Hydric (y/n)	N
Soil Name:	Peru gravelly sandy loam very bouldery		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	gravelly			
	2	sandy	friable		
	3	loam			
Bs1	4				
	5				
	6	gravelly			
	7	sandy	friable	7.5YR4/1	none
	8	loam			observed
	9				
	10				
	12				
Bs2	14	stony			
	16	sandy	friable	10YR4/4	
	18	loam			
	20				
BC	25	gravelly v fine	friable		cmd
	30	sandy loam			
	35				
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80			LLI =	30"

Symbol:	LaB	O Horizon Thickness:	3
Test Pit	HTB-RS-52	Hydric (y/n)	N
Soil Name:	Lamoine silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
A	1	silt			
	2	loam	friable	10YR3/3	
	3				
Bw1	4				
	5				none
	6	silt	friable	2.5Y5/4	observed
	7	loam			
	8				
	9				
	10				
	12				
Bw2	14	silt loam	friable	2.5Y 5/3	cmd
BC	16				
	18	silt loam	firm	2.5Y5/3	cmd
	20				
C	25	silty clay	firm	5Y5/3	cmd
	30	loam			
	35				
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80			LLI =	30"

C.S.S.	Name:	Roger St.Amand	Date:	11/26/18
			License #:	#SS471

STATE OF MAINE ROGER R. ST. AMAND 471 CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	SKB	O Horizon Thickness:	3"

Test Pit	HTB-RS-53	Hydric (y/n)	N
Soil Name:	Croghan gravelly sandy loam, bouldery		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	sandy loam	friable	10YR3/2	
	2				
Bhs	3				
	4				
	5	gravelly sandy loam	friable	7.5YR3/4	none observed
	6				
	7				
	8				
	9				
Bs1	10				
	12	gravelly sandy loam	friable	10YR4/6	
	14				
	16				
Bs2	18	gravelly sandy loam	friable	10YR4/4	
	20				
BC	25	gravelly loamy sand	firm in place	7.5Y5/4	
	30				
	35				
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

Test Pit		Hydric (y/n)	
Soil Name:			

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	12				
	14				
	16				
	18				
	20				
	25				
	30				
	35				
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Roger St.Amand	Date:	
			License #:	#SS471

MAINE
ROGER R. ST. AMAND
#SS471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar

Symbol:	PeB	O Horizon Thickness:	0"

Test Pit	EXTP-RS-54	Hydric (y/n)	N
Soil Name:	Peru fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
	4	fine			
A	5	sandy	friable	10YR 3/4	
	6	loam			
	7				none
	8				observed
	9				
	10				
	12				
Bs	14	fine	friable	10YR 4/6	
	16	sandy loam			
	18				
B	20	fine sandy loam	friable	10YR 3/4	
	25				
BC	30	fine sandy loam	friable	2.5Y 5/4	
	35				
Cd	40	sandy	firm	2.5Y 5/3	cmd
	45	loam			
	50	(some rotten rock)			
	55				
	60				
	65				
	70				
	75				
	80			LLI =	50"

Test Pit	EXTP-RS-55	Hydric (y/n)	N
Soil Name:	Hermon gravelly sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
	4	sandy	friable	10YR 3/3	
Ap	5	loam			
	6				
	7				
	8				
	9	gravelly			none
Bs_1	10	sandy	friable	7.5YR 4/6	observed
	12	loam			
	14				
	16	gravelly			
Bs_2	18	loamy sand	friable	10YR 5/4	
	20				
	25				
	30				
	35	gravelly			
C	40	loamy			
	45	coarse	loose	2.5Y 5/3	
	50	sand	(firm in		
	55		place)		
	60				
	65				
	70				
	75				
	80				see log

C.S.S.	Name:	Roger St.Amand	Date:	01/18/19
			License #:	#SS471

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LuB	O Horizon Thickness:	0"

Test Pit	EXTP-RS-56	Hydric (y/n)	N
Soil Name:	Lamoine silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
Ap	4	silt	friable	10YR 3/3	
	5	loam			
	6				
	7				
	8				
	9				
Bw1	10	silt	friable	2.5Y 5/4	
	12	loam			
	14				
	16	silt			cmp 10YR 4/6
Bw2	18	loam	firm	5Y 5/3	cmd
	20				5Y 6/1
	25				
	30				cmp
	35	silty			10YR 4/6
C	40	clay	firm	5Y 4/3	cmd
	45	loam			5Y 6/1
	50				
	55				
	60				
	65				
	70				
	75				
	80			LLI = 60"	

Symbol:	BvB	O Horizon Thickness:	3"

Test Pit	EXTP-RS-57	Hydric (y/n)	N
Soil Name:	Nicholville silt loam, very wet		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
E	2	silt loam		10YR 6/2	
	3				
	4				
	5				
	6	silt	friable	10YR 4/6	
Bs1	7	loam			
	8				none observed
	9				
	10				
	12				
	14				
Bs2	16	silt	friable	2.5Y 5/4	
	18	loam			
	20				
	25				
2BC	30	sandy loam	firm		
	35				
	40				
	45				
	50	sandy			
2C1	55	loam			
	60				
	65				
	70				
	75				
	80				LLI = 60"

C.S.S.	Name:	Roger St.Amand	Date:	01/18/19
			License #:	#SS471

MAINE ROGER R. ST. AMAND #471 CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	BuC	O Horizon Thickness:	0"

Test Pit	EXTP-RS-58	Hydric (y/n)	N
Soil Name:	Buxton silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
	4	silt	friable	10YR3/3	
Ap	5	loam			
	6				
	7				
	8				none observed
	9				
	10	silt	friable	2.5Y3/3	
Bw1	12	loam			
	14				
	16				
	18				
	20	silt	friable	2.5Y4/4	
Bw2	25	loam			
	30				
BC	35	silt loam	firm	2.5Y4/4	cfd 5Y5/2
	40				
	45				
	50	silty	firm	5Y4/3	
C	55	clay			
	60	loam			
	65				
	70				
	75				
	80			LL = 80"	

Test Pit	EXTP-RS-59	Hydric (y/n)	N
Soil Name:	Buxton silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
	4	silt			
Ap	5	loam	friable	2.5Y3/3	none observed
	6				
	7				
	8				
	9				
	10				
	12				
	14	silt			
Bw1	16	loam	friable	2.5Y5/4	
	18				
	20				
Bw2	25	silt loam	friable	2.5Y4/4	FEW faint
	30	silt	very	2.5Y3/3	
BC	35	loam	firm		cm d 5Y5/2
	40				
	45				
	50	silty	very		
C	55	clay	firm	5Y4/3	
	60	loam			
	65				
	70				
	75				
	80				MAPPED 80"

C.S.S.	Name:	Roger St.Amand	Date:	01/18/19
			License #:	#SS471

ROGER R. ST. AMAND 471 CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC.

Symbol:	LaB	O Horizon Thickness:	0"

Test Pit	EXTP-RS-60	Hydric (y/n)	N
Soil Name:	Lamoine silt loam, variant bouldery		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3	silt			
A	4	loam	friable	2.5Y3/3	
	5				
	6				none
	7				observed
	8				
	9				
Bw	10	silt	friable	2.5Y5/4	
	12	loam			
	14				
	16				
	18	silt		2.5Y5/3	cmp 10YR 4/6
BC	20	loam	firm		cfd
	25				5Y6/2
	30				cmf
	35	silty		5Y4/3	5Y5/2
C	40	clay	firm		fmp
	45	loam			10YR4/6
	50				
	55	gravelly			saturated @ 48"
2C	60	loamy	loose	5Y4/3	
	65	sand			
	70				
	75				
	80			LLI = 66"	

Test Pit	EXTP-RS-61	Hydric (y/n)	N
Soil Name:	Buxton silt loam, variant		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
	4	silt	friable	10YR3/3	
A	5	loam			
	6				
	7				NONE
	8				observed
	9				
	10	silt	friable	2.5Y5/4	
Bw_1	12	loam			
	14				
	16				
Bw_2	18	silt	friable	2.5Y4/4	
	20	loam			
BC	25	silt loam	firm		cmp/cmf
	30	silt	firm	5Y4/3	
C	35	loam			
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Roger St.Amand	Date:	01/18/19
			License #:	#SS471

MAINE
ROGER R. ST. AMAND
471
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	CrB	O Horizon Thickness:	1"
Test Pit	EXTP-AS-1	Hydric (y/n)	N
Soil Name:	Croghan loamy fine sand		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	loamy	friable	7.5YR 6/2	
	2	fine sand			
B_{s1}	3				
	4	loamy			
	5	fine	friable	7.5YR 5/8	none
	6	sand			observed
	7				
	8				
B_{s2}	9				
	10				
	12	loamy	friable	10YR 5/8	
	14	fine			
	16	sand			
	18				
	20				
	25				
BC	30	loamy	friable	10YR 5/4	
	35	fine sand			
C_1	40	VF loamy sand	firm in place	2.5Y 5/4	cmd fmt
C_2	45	loamy fine sand	friable	2.5Y 5/4	
2C	50	gravelly			
	55	coarse	loose	single	none
	60	sand		grain	observed
	65				
	70				
	75				
	80			LL1=	66"

Symbol:	MPC	O Horizon Thickness:	0"
Test Pit	EXTP-AS-2	Hydric (y/n)	N
Soil Name:	Hermon v. gravelly loamy sand		

Horiz	0	Texture	Consistency	Color	Mottling
Bw	1				
	2				
	3				
	4				
	5				
	6	very			
	7	gravelly	very	10YR 4/3	
	8	loamy	friable		none
	9	sand	to		observed
	10		loose		
	12				
	14				
	16				
	18				
	20				
	25				
	30				
	35				
	40				
	45				
BC	50	very	very		
	55	gravelly	friable	2.5Y 4/4	
	60	loamy sand	loose		
2C	65	loamy	very		
	70	sand	friable	2.5Y 5/4	
	75	w/ layers	to		
	80	of coarse sand	loose		

C.S.S.	Name:	Amy N. Jones	Date:	11/14/18
			License #:	#SS499

Amy N. Jones

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	CrB	O Horizon Thickness:	3"

Test Pit	EXTP-AS-3	Hydric (y/n)	N
Soil Name:	Buxton Loam, variant		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	very fine	friable	10YR 5/2	
	2	sandy loam			
	3				
	4				
B_{s1}	5	loam	friable	7.5YR 5/6	
	6				none
	7				observed
	8	very fine			
B_{s2}	9	sandy	friable	10YR 4/4	
	10	loam →			
	12	silt loam			
	14				
	16				
BC	18	silt	firm	2.5Y 5/4	cmd
	20	loam			cmf
	25				
Cd_1	25	silty clay loam	very firm	2.5Y 4/3	
	30				
	35				cmd
	40				
	45	silty	very	2.5Y 4/2	
Cd_2	50	clay	firm		
	55	loam			
	60				
	65				
	70				
	75				
	80			LL = 70"	

Test Pit	EXTP-AS-4	Hydric (y/n)	N
Soil Name:	Cregram fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
B_{s1}	2	loam	friable	5Y 4/6	
	3				
	4				
	5				
	6	fine			none
B_{s2}	7	sandy			observed
	8	loam →	friable	7.5Y 4/4	
	9	loamy			
	10	fine			
	12	sand			
	14				
	16				
B_{s3}	18	loamy	very		
	20	fine	friable	2.5Y 5/4	
	25	sand			
	30				
BC	35	loamy fs	V. friable	10YR 5/4	
C_1	40	loamy fs (layers)	friable	2.5Y 4/3	cmd
	45	fine sand	v friable	2.5Y 5/4	cmf
C_2	50	loamy	very		
	55	fine sand	friable	2.5Y 6/3	
	60				
C_3	65	fine	very	2.5Y 6/2	
	70	sand	friable to loose		
	75				
	80				

C.S.S.	Name:	Amy N. Jones	Date:	11/14/18
			License #:	#SS499

Amy N Jones

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	CrB	O Horizon Thickness:	0

Test Pit	EXTP-AS-5	Hydric (y/n)	N
Soil Name:	Croghan loamy fine sand		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2	loamy	very	7.5Y4/4	
	3	fine	friable		
B_{s1}	4	sand			
	5				
	6				none
	7				obsened
	8				
	9				
	10	loamy	very	10YR5/4	
	12	fine	friable		
B_{s2}	14	sand			
	16				
	18				
	20				
	25				
	30				
	35				
	40	loamy	very	10YR5/6	fmd
B_{s3}	45	fine sand	friable		
BC	50	loamy fs	v. friable	2.5Y5/4	
	55	v. gravelly			
$2C_1$	60	loamy sand	loose	2.5Y4/4	
	65	ext. grav			
$2C_2$	70	sand	loose	2.5Y4/4	
	75				
	80			LL = 72"	

Symbol:	MoC	O Horizon Thickness:	2

Test Pit	EXTP-AS-6	Hydric (y/n)	N
Soil Name:	Monadnock fine sandy loam, variant		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2	loam	friable	5YR4/6	
B_{s1}	3				
	4				
	5				
	6	very			
	7	fine	friable	10YR5/6	
B_{s2}	8	sandy			none
	9	loam			obsened
	10				
	12				
	14				
	16	loamy			
	18	very	very	10YR4/3	
BC	20	fine	friable		
	25	sand			
	30				
	35				
	40	silt			
2Cd	45	loam	firm	2.5Y4/4	
	50				
	55	extremely			
	60	gravelly	loose	2.5Y5/6	
3C	65	coarse			
	70	sand			
	75				
	80				

C.S.S.	Name:	Amy N. Jones	Date:	11/14/18
			License #:	#SS409

Amy N. Jones

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	MoD	O Horizon Thickness:	2"

Test Pit	EXTRA5-7	Hydric (y/n)	N
Soil Name:	Monadnock gravelly fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1	loam	friable	10YR 6/1	
	2				
	3				
	4				
	5	gravelly		7.5Y 5/6	
B_{s1}	6	fine	friable		
	7	sandy			none
	8	loam			observed
	9				
	10				
	12	gravelly			
	14	fine	friable	10YR 5/8	
B_{s2}	16	sandy			
	18	loam			
	20				
	25				
	30	gravelly	very		
$2C_1$	35	loamy	friable	7.5Y 4/4	
	40	sand			
	45				
	50	extremely			
	55	gravelly	loose	7.5Y 4/4	
$2C_2$	60	coarse			
	65	sand			
	70				
	75				
	80			LLI= 78"	

Test Pit		Hydric (y/n)	
Soil Name:			

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	12				
	14				
	16				
	18				
	20				
	25				
	30				
	35				
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Amy N. Jones	Date:	11/14/18
			License #:	#SS409

Amy N Jones

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	near CrB	O Horizon Thickness:	2"

Test Pit	EXTP AB-1	Hydric (y/n)	No
Soil Name:	Swanton very fine sandy loam, variant		

Horiz	0	Texture	Consistency	Color	Mottling
E	1			10YR5/2	
	2				
Bs	3			10YR4/6	
	4	very			
	5	fine	friable		none
	6	sandy			observed
	7	loam			
	8			10YR4/4	
Bs	9				
	10				
	12				
	14				
	16				
	18				
	20				
2BC	25	silt	firm	2.5Y4/3	cmd
	30	loam			5Y5/2
	35				
	40				
	45				
	50				
	55	silty			
2C	60	clay	very	2.5Y4/3	cmd
	65	loam	firm		
	70				
	75				
	80	LLI=	72"	rotten rock - varying size throughout	

Test Pit	EXTP AB-2	Hydric (y/n)	No
Soil Name:	Monadnock very fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
Bs	1			7.5YR4/6	
	2				
	3				
	4	very			
	5	fine			
B	6	sandy		10YR4/6	
	7	loam			
	8				
	9				none
E_b	10		friable	10YR6/3	observed
	12				
	14				
	16				
	18				
BC	20	loamy		2.5Y5/4	
	25	very			
	30	fine	24"-48" rotten rock one side of TP		
	35	sand			
	40				
	45				
	50				
	55	fine			cmd
C	60	sandy	friable	2.5Y4/4	2.5Y5/2
	65	loam			10YR4/6
	70				
	75				
	80	LLI = 72"			

C.S.S.	Name:	Aleita M. Burman	Date:	06/05/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	MPB	O Horizon Thickness:	2"

Test Pit	EXTPAB-3	Hydric (y/n)	No
Soil Name:	Peru fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1			10YR3/2	
A/E	2	fine		?	
	3	sandy		10YR5/2	
Bhs	4	loam		7.5YR3/4	
	5				
	6				
	7				
	8		friable		none
	9				observed
	10	very			
	12	fine		2.5Y5/4	
Bs	14	sandy			
	16	loam			
	18				
	20				
	25				
	30				
	35				
	40				
	45				
	50	very			
	55	fine	firm	2.5Y4/4	ccf
Cd	60	sandy			2.5Y4/4
	65	loam			fcd
	70				5Y5/2
	75			rotten rock -	varying
	80	LL1 = 72"		sizes throughout	

Test Pit	EXTPAB-4	Hydric (y/n)	No
Soil Name:	Skerry fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
A	3			10YR3/2	
	4				
	5				
	6				
	7	fine			
	8	sandy	friable	7.5Y4/6	none
Bs	9	loam			observed
	10				
	12				
	14				
	16				
B	18			2.5Y5/6	
	20				
	25				
	30			2.5Y5/4	
BC	35				
	40				
	45	gravelly			
	50	loamy			
	55	fine			
C	60	sand	firm	2.5Y4/4	cmf
	65				2.5Y5/2
	70				cmd
	75			rotten rock -	10YR4/6
	80	LL1 = 72"		sizes throughout	varying

C.S.S.	Name:	Aleita M. Burman	Date:	06/05/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED
SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	MaB	O Horizon Thickness:	2"

Test Pit	EX TP AB-5	Hydric (y/n)	No
Soil Name:	Monadnock fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1				
	2			10YR 5/2	
	3	fine			
Bs	4	sandy			
	5	loam		7.5YR 4/6	
	6				
B	7				
	8				
	9	gravelly	friable	10YR 5/6	none
	10	fine			observed
	12	sandy			
	14	loam			
	16				
BC	18				
	20	loamy			
	25	very		2.5Y 5/4	
	30	fine			
	35	sand			
	40				
	45				
C	50				
	55	gravelly			cmf
	60	loamy	firm	2.5Y 4/4	2.5Y 5/2
	65	fine			cmd
	70	sand			10YR 4/6
	75		rotten rock		varying
	80	LLI = 72"		sizes throughout	

Test Pit	EX TP AB-6	Hydric (y/n)	No
Soil Name:	Monadnock gravelly loamy sand		

Horiz	0	Texture	Consistency	Color	Mottling
Bs	1	fine		10YR 4/6	
	2	sandy loam			
E	3				
	4			10YR 5/2	
	5				
	6	gravelly	friable		
	7	loamy			
Bs	8	fine			
	9	sand		7.5YR 4/6	
	10				none
	12				observed
BC	14				
	16				
	18			2.5Y 4/4	
	20				
	25				
C	30	gravelly	loose		
	35	coarse			
	40	sand			
	45			2.5Y 4/3	
	50				
	55				
	60				
	65				
	70				
	75		rotten rock		varying
	80	LLI = 72"		sizes throughout	

C.S.S.	Name:	Aleita M. Burman	Date:	06/05/19
			License #:	#3430

STATE OF MAINE
ALEITA M. BURMAN
NO. 3430
CERTIFIED
SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	PeB	O Horizon Thickness:	2

Test Pit	EX TP AB-7	Hydric (y/n)	No
Soil Name:	Peru fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
A/E	1			10YR 3/2	
	2			:	
	3	fine		10YR 5/2	
Bs	4	sandy			
	5	loam		7.5YR 3/4	
	6				
	7				
B	8				none
	9		friable		observed
	10				
	12	very			
	14	fine		2.5Y 5/4	
	16	sandy			
	18	loam		7"-60"	rotten rock one side of TP
	20				
	25				
	30				
	35				
C	40				
	45				ccf
	50	very			2.5Y 4/4
	55	fine	firm	2.5Y 4/4	fcd
	60	sandy			5Y 5/2
	65	loam			
	70				
	75				
	80	LL1 = 72"			

Symbol:	PeB	O Horizon Thickness:	3"

Test Pit	EX TP AB-8	Hydric (y/n)	No
Soil Name:	Peru fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1			10YR 5/2	
	2	fine			
Bs1	3	sandy			
	4	loam		7.5YR 4/6	
Bs2	5				
	6				
	7		friable	7.5YR 3/4	none
	8	gravelly			observed
	9	fine			
B	10	sandy			
	12	loam			
	14				
	16			2.5Y 5/6	
	18				
	20				
	25				
BC	30				cmd
	35				10YR 4/6
	40				
C	45	cobbly	firm	2.5Y 4/4	
	50	fine			
	55	sandy			none
	60	loam			observed
	65				
	70				
	75				
	80	LL1 = 72"			

C.S.S.	Name:	Aleita M. Burman	Date:	06/05/19
			License #:	#CS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resources Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	PeB	O Horizon Thickness:	3"

Test Pit	EX TP AB-9	Hydric (y/n)	No
Soil Name:	5 Kerry fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
A/E	1			10YR3/2	
	2				
	3			10YR5/2	
Bs1	4				
	5				
	6	fine		7.5YR4/6	none
	7	sandy			observed
	8	loam			
	9				
	10				
Bs2	12		friable		
	14			10YR4/6	
	16				
BC	18	cobbley			
	20	fine			cmd
	25	sandy		2.5Y5/4	10YR4/6
	30	loam			
C	35				
	40				
	45	cobbley			cmd
	50	loamy	firm	2.5Y4/4	10YR4/6
	55	fine			
	60	sand			
	65				
	70				
	75				
	80	LLI = 72"		no rotten rock	

Symbol:	5KB	O Horizon Thickness:	3"

Test Pit	EX TP AB-10	Hydric (y/n)	No
Soil Name:	5 Kerry fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1				
	2			10YR5/2	
	3				
Bs1	4				
	5			7.5YR4/6	
	6				
	7	fine			none
	8	sandy	friable		observed
	9	loam			
Bs2	10			10YR4/6	
	12				
	14				
	16				
BC	18				
	20			10YR4/4	
	25				
C	30				
	35				
	40	cobbley			
	45	loamy	firm	2.5Y4/4	cmd
	50	fine			10YR4/6
	55	sand			
	60				
	65				
	70				
	75				
	80	LLI = 72"		no rotten rock	

C.S.S.	Name:	Aleita M. Burman	Date:	06/05/19
			Licence #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	SK C	O Horizon Thickness:	2"

Test Pit	EX TP AB-11	Hydric (y/n)	No
Soil Name:	SKerry cobbley fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
Ap	1				
	2			10YR 3/2	
	3				
Bs	4			7.5YR 3/4	
	5	cobbly			
B	6	fine			
	7	sandy			
	8	loam	friable		none observed
	9			10YR 4/6	
	10				
	12				
	14				
	16				
BC	18				
	20	cobbley		10YR 3/6	
	25	loamy			
	30	fine			
	35	sand			
	40				
	45				
	50	refusal @ 36" - very large			
	55	boulders			
	60	(excavator operator did not			
	65	think it was ledge,			
	70	large boulders nearby)			
	75				
	80	LLI = 36"			

Test Pit	EX TP AB-12	Hydric (y/n)	NO
Soil Name:	Crognan fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1				
	2			2.5Y 6/2	
Bs	3			10YR 4/6	
	4				
B	5	fine			none observed
	6	sandy	friable		
	7	loam			
	8			10YR 5/6	
	9				
	10				
	12				
	14				
	16				
BC	18	very fine			
	20	sandy			cmd
	25	loam	firm	2.5Y 4/4	5Y 5/2
	30				
	35				
ZC	40	layered			
	45	very fine			
	50	sand :	firm	2.5Y 4/4	multi-
	55	fine	in	:	colored
	60	sand	place	2.5Y 5/3	
	65				
	70				
	75				
	80	LLI = 60"			

Symbol:	near PeC	O Horizon Thickness:	3"

C.S.S.	Name:	Aleita M. Burman	Date:	06/05/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	MaxRec	O Horizon Thickness:	4"

Test Pit	EXTPAB-13	Hydric (y/n)	No
Soil Name:	Roundabout silt loam, buried		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
	4				
	5				
	6				
	7	silt	friable	10YR 4/4	none
FILL	8	loam			observed
	9				
	10				
	12				
	14				
	16				
	18				
	20				
Ob	25	organic matter - former surface			
Bs1	30	silt		7.5YR 3/4	
Bs2	35	loam		10YR 4/6	none
	40		friable		observed
B	45	silt		10YR 4/6	
	50	loam			
	55	cobbley			cmd
BC	60	gravelly silt loam	firm	10YR 4/4	10YR 4/6
	65				
	70				
	75				
	80	LLI = 65"			

Symbol:	SKB	O Horizon Thickness:	4"

Test Pit	EXTPAB-14	Hydric (y/n)	No
Soil Name:	Croghan fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
Bs	2			7.5YR 3/4	
	3				
	4				
	5				
	6				
	7	fine	friable		none
	8	sandy			observed
B	9	loam			
	10			10YR 4/6	
	12				
	14				
	16				
	18				
	20				
	25				cmd
BC	30		firm	2.5Y 4/4	5Y 5/2
	35				
	40				
	45	layered			
	50	very fine	friable	2.5Y 4/4	multi-
2C	55	sand		&	colored
	60	and		2.5Y 5/3	
	65	fine sand			
	70				
	75				
	80	LLI = 66"			

C.S.S.	Name:	Aleita M. Burman	Date:	06/05/19
			License #:	#CC430

STATE OF MAINE
ALEITA M BURMAN
NO. CC430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	peaV SILC	O Horizon Thickness:	3"

Test Pit	EXTPAB-15	Hydric (y/n)	No
Soil Name:	Roundabout silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
Bs	4			10YR 4/6	
	5				
	6	silt			none
	7	loam			observed
	8				
	9		friable		
B_1	10			2.5Y 4/4	
	12				
	14				
	16				
	18				cfd 2.5Y 5/2
B_2	20			2.5Y 4/4	cfp 10YR 4/6
	25				
	30	gravelly silt			
	35				
BC	40	loam	very firm	5Y 5/3	mcp 10YR 4/6
	45				
	50				
	55				
	60				
	65	very gravelly			cmf
C	70	silt loam	firm	5Y 5/3	5Y 5/2
	75			seepage 60"	
	80	LLI = 6"			

Test Pit	EX TP AB-16	Hydric (y/n)	No
Soil Name:	Lamoine silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
	4				
B_1	5			10YR 4/4	none
	6				observed
	7		friable		
	8				
	9	silt			
	10	loam			mmd 5Y 5/2
	12				
B_2	14			2.5Y 4/3	cmf
	16				2.5Y 4/4
	18				
	20			seepage 18"	
	25				mmd 5Y 5/2
	30				
BC	35		firm	2.5Y 4/3	cmf
	40				2.5Y 4/4
	45				
	50				
	55	silty			mmd
C	60	clay	very firm	5Y 4/3	5Y 5/2
	65	loam			cmd 2.5Y 4/4
	70				
	75				
	80	LLI = 66"			

C.S.S.	Name:	Aleita M. Burman	Date:	06/05/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	BuB	O Horizon Thickness:	2"

Test Pit	EX TPAB-17	Hydric (y/n)	NO
Soil Name:	Buxton silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
B_s	3			10YR 4/6	
	4				
	5				
	6				none
	7		friable		observed
	8				
	9			2.5Y 5/4	
B	10	silt			
	12	loam			
	14				
	16				
	18				
	20				
	25				cmp
	30				10YR 4/6
BC	35		firm	2.5Y 4/3	cmf
	40				2.5Y 4/2
	45				
	50				
	55	silty clay	very	5Y 4/3	mmd 5Y 5/2
C	60	loam	firm		cmd 2.5Y 4/4
	65			seep @	50"
	70				
	75				
	80	LL1 = 66"			

Test Pit		Hydric (y/n)	
Soil Name:			

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	12				
	14				
	16				
	18				
	20				
	25				
	30				
	35				
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Aleita M. Burman	Date:	06/05/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	5KB/5fB	O Horizon Thickness:	0

Test Pit	HTP-AB-18	Hydric (y/n)	No
Soil Name:	5Kerry fine sandy loam, buried (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
FILL - Road Bed	1				
	2				
	3				
	4	ext.			
	5	gravelly			
	6	loamy			
	7	sand	compact	various	N/A
	8	and			
	9	gravelly			
	10	fine			
	12	sandy			
	14	loam			
	16	fill			
	18	w/stones		This profile is	
	20	& cobbles		adjacent to	
	25			road bed	
	30			↓	
Oi/e	35	Org.		brown	
E	40			7.5YR5/2	
Bhs	45	fine sandy			none observed
	50	loam	friable	7.5YR4/6	
Bs	55				
	60	loamy		7.5Y4/3	
	65	fine			
	70	sand			
	75				
	80	refusal @ 72" - rock			

Test Pit	HTP-AB-19	Hydric (y/n)	No
Soil Name:	Udorthents		

Horiz	0	Texture	Consistency	Color	Mottling
FILL - Road Bed	1				
	2				
	3				
	4				
	5	ext.			
	6	gravelly			
	7	loamy			
	8	sand	compact	various	N/A
	9	and			
	10	gravelly			
	12	fine			
	14	sandy			
	16	loam			
	18	fill			
	20	w/stones	This profile is		adjacent
	25	& cobbles	to the road bed		
	30				
	35				
	40		↓		
Oi/a	45				n/a
	50	org.		black	
O/A	55	mucky silt	friable	10YR3/2	n/a
Bw	60	silt		10YR3/3	cmp 7.5Y6/2
BC	65	loam	firm	7.5Y4/3	cmp 10YR3/6 cmp 5Y5/2
	70				
	75	refusal @ 66" - very		firm	
	80				

C.S.S.	Name:	Aleita M. Burman	Date:	08/06/19
			License #:	#SS430

STATE OF MAINE
ALEITA M BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LbB / LaB	O Horizon Thickness:	0

Test Pit	HTP-AB-20	Hydric (y/n)	No
Soil Name:	Lamoine silt loam, buried (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
FILL - ROAD BED	1				
	2				
	3				
	4	ext.			
	5	gravelly			
	6	loamy			
	7	sand	compact	various	N/A
	8	and			
	9	gravelly			
	10	fine			
	12	sandy			
	14	loam			
	16	fill			
	18	w/stones	This profile is adjacent to the road bed		
	20	/cobbles			
	25				
1" Oa	30				
	35				
Bw1	40		friable	2.5Y3/2	n/o
Bw2	45	silt loam	firm	2.5Y4/3	cm 2.5Y5/2 cmp 10YR 4/4
BC	50		very firm	2.5Y4/3	cmp 10YR 3/6 cmd 2.5Y5/2
	55				
	60				
	65	refusal @ 53" - very firm			
	70				
	75				
	80				

Symbol:	B+A / BmA	O Horizon Thickness:	0

Test Pit	HTPAB-21	Hydric (y/n)	No
Soil Name:	Bucksport muck, buried (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
FILL - ROAD BED	1				
	2				
	3				
	4	ext.			
	5	gravelly			
	6	loamy			
	7	sand	compact	various	N/A
	8	and			
	9	gravelly			
	10	fine			
	12	sandy			
	14	loam			
	16	fill			
	18	w/stones	This profile is adj. to the road bed		
	20	/cobbles			
	25				
	30				
	35				
Oa	40				
	45				
	50	mucK (some fibrous)	massive	dark brown and black	n/o (saturated)
	55				
	60				
	65				
	70				
	75	refusal - O soil			
	80				

C.S.S.	Name:	Aleita M. Burman	Date:	08/06/19
			License #:	#SS430

STATE OF MAINE
ALEITA BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LfA/LaB	O Horizon Thickness:	3

Test Pit	HTP-AB-22	Hydric (y/n)	No
Soil Name:	Lamoine silt loam, variant (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
E	1				
	2			10YR 6/2	
	3				
B	4				
	5				none
	6	silt	friable		observed
	7	loam		10YR 4/4	
	8				
	9				
	10				
	12				
BC	14				
	16		firm	2.5Y 4/3	cmp
	18				10YR 3/6
	20				
	25				
	30	refusal e 20" - very firm			
	35				
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

Symbol:	5hA/5cA	O Horizon Thickness:	0

Test Pit	HTP-AB-23	Hydric (y/n)	No
Soil Name:	Scantic silt loam, buried (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
FILL - ROAD BED	1				
	2				
	3				
	4	ext.			
	5	gravelly			
	6	loamy			
	7	sand	compact	various	N/A
	8	and			
	9	gravelly			
	10	fine			
	12	sandy			
	14	loam			
	16	fill	This profile is adjacent		
	18	w/stones	to the road bed		
	20	& cobbles			
	25				
	30				
Oi/a	35	org.		black	
Bw	40	silt	firm	2.5Y 4/3	mmp 10YR 3/4 mmp 10YR 4/6 mmd 5Y 5/2
	45	loam			
BCg	50		V. firm	2.5Y 4/2	cmp 10YR 4/6
	55				
	60	refusal e 48"	V-firm		
	65				
	70				
	75				
	80				

C.S.S.	Name:	Aleita M. Burman	Date:	08/06/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED
SOIL SCIENTIST

Atlantic Resources Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LEA	O Horizon Thickness:	0

Test Pit	HTP-AB-24	Hydric (y/n)	No
Soil Name:	Lamoine silt loam, filled (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
FILL - ROAD BED	1	ext. grav.			
	2	loamy sand			
	3	& grav.			
	4	fs/fill	compact	various	N/A
	5	w/stones			
	6	& cobbles			
	7				
	8				
Oi/e	9	org.		brown	
E	10				
	12			10YR6/2	
	14				none
	16	silt	friable		observed
B	18	loam			
	20			10YR4/4	
	25				
BC	30		firm	2.5Y4/3	cmp 10YR3/6
	35				
	40	refusal @ 30" - very firm			
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

Symbol:	BbA	O Horizon Thickness:	0

Test Pit	HTP-AB-25	Hydric (y/n)	No
Soil Name:	Biddeford muck, buried (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
FILL - ROAD BED	1				
	2				
	3				
	4	ext.			
	5	gravelly			
	6	loamy			
	7	sand	compact	various	N/A
	8	and			
	9	gravelly			
	10	fine			
	12	sandy			
	14	loam			
	16	fill			
	18	w/stones			
	20	& cobbles	This profile is adj.		
	25		to roadbed		
	30				
	35				
Oi/a	40	6" sph. oi			
	45	over	massive	black	n/o
	50	muck			
	55				
bg	60	Fibric	firm	2.5Y4/2	10YR3/6
	65	refusal @			
	70				
	75				
	80				

C.S.S.	Name:	Aleita M. Burman	Date:	08/06/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. 430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	VdA / LuB	O Horizon Thickness:	0

Test Pit	HTP-AB-26	Hydric (y/n)	No
Soil Name:	Odor thents		

Horiz	0	Texture	Consistency	Color	Mottling
FILL - ROAD BED	1				
	2				
	3				
	4	ext.			
	5	gravelly			
	6	loamy			
	7	sand	compact	various	N/A
	8	and			
	9	gravelly			
	10	fine			
	12	sandy			
	14	loam			
	16	fill			
	18	w/ stones			
	20	& cobbles			
	25				
	30		This profile is adjacent to road bed		
	35				
	40				
	45				
	50				
Oie		org.		brown	
E	55			10YR 6/2	
Bs1	60	silt	friable	10YR 4/6	none
	65	loam			observed
Bs2	70			7.5YR 4/4	
BC	75		firm	7.5YR 4/3	common 7.5YR 4/4 & common 7.5YR 4/2
	80	refusal @ 74"			

Test Pit	HTP-AB-27	Hydric (y/n)	No
Soil Name:	Lamoine silt loam, filled (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
FILL - ROAD BED	1				
	2	ext. grav.			
	3	loamy			
	4	sand:			
	5	gravelly	compact	various	N/A
	6	fsl			
	7	w/ cobbles			
	8	& stones	This profile is adj. to road bed		
	9				
	10				
	12				
Oa	14				
	16	org.		black	
B	18				
	20	silt	friable	10YR 4/3	none observed
BC	25	loam	firm	7.5YR 4/3	common 10YR 5/6 & 7.5YR 4/2
	30				
	35				
	40	refusal @ 28" - firm			
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Aleita M. Burman	Date:	08/06/19
			License #:	#SS430

STATE OF MAINE
ALEITA M BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	56A	O Horizon Thickness:	0

Test Pit	HTP-AB-28	Hydric (y/n)	NO
Soil Name:	Scantic silt loam, buried (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
FILL - ROAD BED	1				
	2				
	3				
	4	ext.			
	5	gravelly			
	6	loamy			
	7	sand	compact	various	N/A
	8	and			
	9	gravelly			
	10	fine			
	12	sandy			
	14	loam			
	16	fill			
	18	w/ stones			
	20	& cobbles			
	25				
	30				
Oa	35	org.		black	
Bw	40	silt	firm	7.5Y4/3	cmd 7.5Y5/2
	45	loam			cmp 10YR4/4
BC	50		very firm	7.5Y4/3	cmp 10YR3/6
	55				
	60	refusal @ 52" - v. firm			
	65				
	70				
	75				
	80				

This profile is adj. to road bed

Symbol:	LFA	O Horizon Thickness:	0

Test Pit	HTP-AB-29	Hydric (y/n)	NO
Soil Name:	Lamoine silt loam, filled (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
FILL - ROAD BED	1				
	2	ext. grav.			
	3	loamy			
	4	sand;			
	5	grav.	compact	various	N/A
	6	fsl fill			
	7	w/ stones			
	8	& cobbles			
	9				
	10				
	12				
Oie	14	org		black	
Ap	16				
	18	silt	friable	7.5Y4/3	none
	20	loam			observed
	25				
Bs	30			10YR4/4	
BC	35		firm	7.5Y4/3	cmp 10YR3/6 cmd 7.5Y5/2
	40	refusal @ 32" - firm			
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

This profile is adj. to road bed

C.S.S.	Name:	Aleita M. Burman	Date:	
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resources Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	nearLtA	O Horizon Thickness:	0

Test Pit	HTP-AB-30	Hydric (y/n)	No
Soil Name:	Scantic silt loam, filled (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
FILL-ROAD BED	1				
	2	ext. grav.			
	3	loamy			
	4	sand			
	5	and	compact	various	N/A
	6	grav. fsl			
	7	fill			
	8	w/cobbles	TP33 probable is adjacent to roadbed		
	9	: stones			
	10				
	12				
Oa	14	org.		black	
	16				
Bg	18				cmp. 10YR3/6
	20	silt	firm	2.5Y4/2	
BC	25	loam	very firm	2.5Y4/3	cmp. 10YR3/6 cmd 5Y5/2
	30				
	35				
	40	refusal @ 28" - very firm			
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

Symbol:	MuC	O Horizon Thickness:	2"

Test Pit	HTB-AB-31	Hydric (y/n)	No
Soil Name:	Monadnock fine sandy loam (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
Bs1	1				
	2				
	3	gravelly			
	4	fine		10YR 4/4	
	5	sandy			
	6	loam			
	7				
	8				none
Bs2	9	very	friable		observed
	10	gravelly		10YR 5/4	
	12	fine sandy loam			
	14				
B	16				
	18				
	20	very			
	25	gravelly		2.5Y 5/4	
	30	loamy			
	35	fine sand			
	40				
	45				
	50				
	55	refusal @ 44" -			
	60	equipment depth			
	65				
	70				
	75				
	80				

C.S.S.	Name:	Aleita M. Burman	Date:	08/06/19 08/12/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	RLB	O Horizon Thickness:	3"

Test Pit	HTP-AB-32	Hydric (y/n)	No
Soil Name:	Roundabout fine sandy loam (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
Bs_1	2	fine		10YR4/3	
	3	sandy			
	4	loam			
E	5			10YR 5/2	
	6				none
Bs_2	7	gravelly fine	friable		obsenved
	8			10YR 5/4	
	9	sandy			
	10	loam			
	12				
	14				
Bs_3	16	fine		2.5Y 5/3	
	18	sandy			
	20	loam			
	25	silt			cmd
2BC	30	loam	firm	2.5Y 5/4	2.5Y 6/2
	35				
	40				
	45	refusal e 30"-firm			
	50				
	55				
	60				
	65				
	70				
	75				
	80				

Symbol:	RLB	O Horizon Thickness:	3

Test Pit	HTP-AB-33	Hydric (y/n)	No
Soil Name:	Roundabout silt loam (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
B_1	2			2.5Y 4/3	
	3				
	4	silt			
	5	loam	friable		none
	6				obsenved
B_2	7			2.5Y 4/4	
	8				
	9				
	10				cmd 5Y 6/6
B_3	12			2.5Y 4/3	cmp 10YR 3/6
	14	gravelly			
	16	silt			cmd
BC	18	loam	firm	5Y 4/3	5Y 6/2
	20				
	25				
	30				
	35	refusal e 22"-firm			
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Aleita M. Burman	Date:	08/12/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	ScA	O Horizon Thickness:	8"

Test Pit	HTP-AB-34	Hydric (y/n)	Yes
Soil Name:	Scantic silt loam (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
Bw1	2			2.5Y 3/2	none observed
	3				
	4				
	5		friable		
	6	silt			
Bw2	7	loam		2.5Y 4/3	mmp 10YR 3/6
	8				cmd 2.5Y 6/2
	9				
	10				
~~BC1~~	~~12~~		firm in place	2.5Y 5/3	cmp 10YR 3/6
	14				
BC2	16		firm	2.5Y 4/3	cmp 10YR 3/6
	18		to		
	20		very firm		
	25				free water @ 20"
	30				
	35	refusal @ 20" - very firm			
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

Symbol:	LaB	O Horizon Thickness:	2"

Test Pit	HTP-AB-35	Hydric (y/n)	No
Soil Name:	Lamoine silt loam (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
Bs	4			10YR 4/4	
	5		friable		none
	6				observed
	7	silt			
	8	loam			
B1	9			2.5Y 4/3	
	10				
	12				
B2	14		firm	2.5Y 4/3	
	16				
	18				cmp
	20		very	2.5Y 4/3	10YR 4/6
BC	25		firm		
	30				
	35				
	40				
	45	refusal @ 30" - very firm			
	50				
	55				
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Aleita M. Burman	Date:	08/12/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	BuB	O Horizon Thickness:	3"

Test Pit	HTP-AB-36	Hydric (y/n)	No
Soil Name:	Buxton silt loam (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
Bhs	1				
	2			10YR3/3	
	3				
B1	4				
	5	silt			none
	6	loam			observed
	7			10YR4/3	
	8				
	9				
	10				
	12				
B2	14			2.5Y4/3	
	16				
	18				cmp 10YR3/6
BC	20		firm	2.5Y4/3	fmd 2.5Y6/2
	25				
	30				
	35				
	40	refusal @ 26" - very firm			
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

Symbol:	PeC	O Horizon Thickness:	3"

Test Pit	HTP-AB-37	Hydric (y/n)	No
Soil Name:	Peru loamy very fine sand (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
E	1				
	2	loamy			
	3	very		10YR5/2	
	4	fine			
	5	sand			
Bs1	6			10YR3/4	none
	7		friable		observed
Bs2	8				
	9	fine			
	10	sandy		10YR4/6	
	12	loam			
	14				
	16				
	18				
BC	20	very fine			fmd
	25	sandy	firm	2.5Y4/4	2.5Y6/2
	30	loam			
	35				
	40	refusal @ 28" - very firm			
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Aleita M. Burman	Date:	08/12/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LaB	O Horizon Thickness:	2"

Test Pit	HTP-AB-38	Hydric (y/n)	No
Soil Name:	Lamoine silt loam (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
Bs1	2			10YR3/6	
	3				
	4				none observed
	5		friable		
	6				
Bs2	7	silt		10YR4/3	
	8	loam			
	9				
	10				
	12				
	14				
	16				fmd 7.5YR6/2
BC	18		firm	7.5Y4/3	cmf
	20				7.5Y4/4
	25				
	30				
	35	refusal @ 36" - very firm			
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

Symbol:	51KD	O Horizon Thickness:	2"

Test Pit	HTP-AB-39	Hydric (y/n)	No
Soil Name:	Udorthents		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
	4				
	5				
	6				
	7	silt	friable	7.5Y5/4	none
B	8	loam			observed
	9				
	10				
	12				
	14	This TP is disturbed - likely			
	16	where boulder was removed			
	18	or stump was removed			
	20				
	25				
	30				
	35				
	40	refusal @ 28" - no change			
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Aleita M. Burman	Date:	08/12/19
			License #:	#SS430

STATE OF MAINE
ALEITA M BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	SKB	O Horizon Thickness:	2"

Test Pit	HTP-AB-40	Hydric (y/n)	
Soil Name:	Pera very fine sandy loam (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
Bhs	1				
	2			10YR3/4	
	3				
	4				
Bs1	5	very			
	6	fine	friable		none
	7	sandy			observed
	8	loam		10YR4/4	
	9				
	10				
	12				
Bs2	14	very gravelly			
	16	fsl		10YR4/4	
	18				
	20				
	25		refusal @ 17"-		
	30		large rock		
	35				
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

Symbol:	SKB	O Horizon Thickness:	3"

Test Pit	HTB-AB-41	Hydric (y/n)	No
Soil Name:	Skerry very fine sandy loam (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
Bhs	1				
	2			10YR3/6	
	3				
	4	very			
Bs1	5	fine			none
	6	sandy	friable	10YR4/4	observed
	7	loam			
	8				
	9				
	10				
	12				
Bs2	14			2.5Y4/3	
	16				
	18				
	20				
	25		refusal @ 18"-		
	30		large rock		
	35				
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Aleita M. Burman	Date:	08/12/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED
SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	PeC	O Horizon Thickness:	3"

Test Pit	HTP-AB-42	Hydric (y/n)	NO
Soil Name:	Buxton silt loam (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
Bhs	1				
	2			10YR2/1	
	3				
	4				
	5				
	6				
	7		friable		
Bs	8	silt		10YR4/4	
	9	loam			
	10				
	12				
	14				
	16				
	18				cmp 10YR3/6
BC	20		firm	2.5Y4/3	fmd 2.5Y6/2
	25				
	30				
	35	refusal @ 24" - very firm			
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

Symbol:	BrB	O Horizon Thickness:	7"

Test Pit	HTB-AB-43	Hydric (y/n)	Y
Soil Name:	Brayton mucky silt loam (closest to)		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
Bg	2	mucky silt loam	friable	2.5Y5/1	none observed
	3				
	4				
	5				
	6				
	7				
	8				cmd 5Y5/1
BCg	9		firm	5Y4/2	cmd 2.5Y4/4
	10				
	12	loam			
	14				
	16				
	18				
	20				
Cg	25		firm	5Y5/2	cmp 10YR 3/6
	30				
	35				
	40				
	45				
	50	refusal @ 36"			
	55		firm		
	60				
	65				
	70				
	75				
	80				

C.S.S.	Name:	Aleita M. Burman	Date:	08/12/19
			License #:	#SS430

STATE OF MAINE ALEITA BURMAN NO. 430 CERTIFIED SOIL SCIENTIST

Aleita Burman

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	PeC	O Horizon Thickness:	3

Test Pit	XTP-AB-44	Hydric (y/n)	No
Soil Name:	Peru gravelly fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
Bh	1				
	2				
	3			7.5YR3/4	
	4				
	5	gravelly			
B_{s_1}	6	fine			none
	7	sandy	friable	10YR3/4	obsewed
	8	loam			
	9				
B_{s2}	10				
	12				
	14			10YR3/6	
	16				
	18				
	20				
C_1	25				
	30	rotten			
	35	rock	firm	variable	n/o
	40		in		
	45		place		
	50				
C_2	55	very			
	60	gravelly	firm	2.5Y4/3	cmp
	65	fine			10YR4/6
	70	sandy loam			
	75				
	80			LOF 72"	

Test Pit	XTP-AB-45	Hydric (y/n)	No
Soil Name:	Lamoine silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
B_s	1				
	2				
	3			10YR4/3	
	4		friable		none
	5				obsewed
B	6				
	7	silt		2.5Y4/3	
	8	loam			
B_g	9				
	10				cmp
	12			2.5Y5/2	10YR4/6
	14		firm		
	16				
BC	18			2.5Y4/3	cmd
	20				5Y5/2
	25				
C	30				
	35	silty	very		cmp
	40	clay	firm	2.5Y4/3	10YR4/4
	45	loam			cmd
	50				5Y5/1
	55				
	60				
	65				
	70				
	75				
	80			LOF 48"	

C.S.S.	Name:	Aleita M. Burman	Date:	9/17/19
			License #:	#SS430

STATE OF MAINE
ALEITA M BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	SKC	O Horizon Thickness:	4

Test Pit	XTP-AB-46	Hydric (y/n)	No
Soil Name:	Skerry fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
Bhs	2			7.5YR3/3	
	3				
	4				
	5	fine			
Bs1	6	sandy	friable	10YR3/4	none
	7	loam			observed
	8				
	9				
Bs2	10			10YR4/6	
	12				
	14				
	16				
	18				
B	20			7.5Y4/4	
	25				
C1	30	rotten rock	firm in place	variable	
	35	very	firm		cmp
C2	40	gravelly loamy fine sand	(cemented)	7.5Y4/3	10YR3/6
	45				cmd
	50				5/5/2
C3	55	gravelly	loose	7.5Y5/3	n/o
	60	loamy sand			
	65				
	70				
	75				
	80			LOI = 60"	

Symbol:	SKB	O Horizon Thickness:	4

Test Pit	XTP-AB-47	Hydric (y/n)	No
Soil Name:	Skerry fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1			10YR6/1	
	2				
	3				
Bhs	4			7.5YR3/3	
	5				none
	6				observed
	7	fine	friable		
	8	sandy			
	9	loam			
Bs	10			7.5Y4/4	
	12				
	14				
	16				
	18				
B	20		cemented		cmp
	25			7.5Y4/3	10YR 4/6
	30				
BC	35	gravelly loamy fine sand	firm	7.5Y4/3	cmp
	40				10YR 4/6
	45				
C2	50	rotten rock	firm in place	variable	
	55				
	60	very gravelly	firm	7.5Y4/4	n/o
C3	65	fine sandy			
	70	loam			
	75				
	80			LOI = 68"	

C.S.S.	Name:	Aleita M. Burman	Date:	9/17/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Aleita Burman

Atlantic Resources Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LaB	O Horizon Thickness:	4

Test Pit	XTP-AB-48	Hydric (y/n)	No
Soil Name:	Lamoine silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
B_{s1}	1				
	2			10YR3/6	
	3				
B_{s2}	4				
	5				none
	6	silt			observed
	7	loam	friable	10YR4/4	
	8				
	9				
	10				
B	12				
	14				cmd
	16			2.5Y4/4	2.5Y 4/4
	18				cmd
	20				2.5Y6/2
BC	25				cmp
	30			2.5Y4/4	2.5Y4/4
	35				cmd
					2.5Y6/2
C	40		firm		
	45	silty			
	50	clay		2.5Y4/4	N/O
	55	loam			
	60				
	65				
	70				
	75				
	80				L01=60"

Symbol:	PeC	O Horizon Thickness:	3

Test Pit	XTP-AB-49	Hydric (y/n)	No
Soil Name:	Rex cobbley fine sandy loam, variant, extremely stony		

Horiz	0	Texture	Consistency	Color	Mottling
B_{s1}	1				
	2			7.5Y3/6	
	3				
B_{s2}	4	cobbley			
	5	fine			none
	6	sandy		10YR3/6	observed
	7	loam			
	8		friable		
	9				
	10				
B_{s3}	12				
	14				
	16			10YR4/6	
	18				
	20				
BC	25				
	30	extremely			
	35	gravelly			cmp
	40	fine	firm	2.5Y4/3	10YR4/6
	45	sandy	(cemented)		
	50	loam			
	55				
	60				
	65				
	70				
	75				
	80			L01=	53"

C.S.S.	Name:	Aleita M. Burman	Date:	9/17/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED
SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	RLB	O Horizon Thickness:	0

Test Pit	XTP-AB-50	Hydric (y/n)	No
Soil Name:	Roundabout silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
Ap	1				
	2				
	3			10YR4/4	
	4				
	5				
	6				none
Bs	7	silt	friable		observed
	8	loam			
	9				
	10			10YR4/4	
	12				
	14				
	16				
BC	18				
	20				cmp
	25		firm	2.5Y4/3	10YR4/6
	30				
	35				
C	40	very			cmp
	45	gravelly	firm	2.5Y4/3	10YR4/6
	50	silt			cmd
	55	loam			2.5Y5/2
	60				
	65				
	70				
	75				
	80			L01 = 55"	

Test Pit	XTP-AB-51	Hydric (y/n)	No
Soil Name:	Peru cobbly fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1				
	2			7.5YR6/2	
	3				
Bs1	4				
	5	cobbly			
	6	fine			
	7	sandy	friable	7.5YR4/6	none
	8	loam			observed
	9				
Bs2	10				
	12			10YR3/6	
	14				
	16				
B	18	very			
	20	gravelly		2.5Y4/3	
	25	v. fine			
	30	sandy loam			
BC	35	v. gravelly	firm	2.5Y4/3	cmp
	40	fine sandy loam			10YR4/6
C	45	v. gravelly			cmp
	50	fine	very		10YR4/6
	55	sandy	firm	2.5Y4/3	cmd
	60	loam			2.5Y5/2
	65				
	70				
	75				
	80			L01 =	58"

C.S.S.	Name:	Aleita M. Burman	Date:	9/17/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resources Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	BuC	O Horizon Thickness:	3

Test Pit	XTP-AB-52	Hydric (y/n)	No
Soil Name:	Buxton silt loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
B_{s1}	2			10YR3/4	
	3				
	4				
	5				
	6				none
	7				observed
B_{s2}	8	silt	friable	10YR4/4	
	9	loam			
	10				
	12				
	14				
	16				
	18				
	20				cmp
BC	25		firm	7.5Y4/3	10YR3/4
	30				
	35				
	40				cmp 10YR3/6
	45	silty	very	7.5Y4/3	mmd
C	50	clay	firm		7.5Y6/2
	55	loam			
	60				
	65				
	70				
	75				
	80			LOI = 55"	

Test Pit	XTP-AB-53	Hydric (y/n)	No
Soil Name:	Peru cobbly fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
B_{s1}	2			7.5YR4/6	
	3				
	4	cobbly			
	5	fine	friable		
	6	sandy			none
	7	loam		10YR3/6	observed
B_{s2}	8				
	9				
	10				
	12				
	14	gravelly			
	16	fine			
B	18	sandy		7.5Y4/4	
	20	loam			
	25				
	30	very			
	35	gravelly	firm	7.5Y4/3	cmp
BC	40	fine			10YR4/6
	45	sandy			
	50	loam			
C_1	55	rotten	firm in	variable	
	60	rock	place		
	65				
	70				
	75				
	80			LOI = 55"	

C.S.S.	Name:	Aleita M. Burman	Date:	9/17/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resources Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	PeA	O Horizon Thickness:	2

Test Pit	XTP-AB-54	Hydric (y/n)	No
Soil Name:	Pew cobbly fine sandy loam, very stony		

Horiz	0	Texture	Consistency	Color	Mottling
Ap	1				
	2			10YR3/2	
	3				
E	4	cobbly		10YR5/2	
Bs1	5	fine			
	6	sandy		7.5YR9/6	
	7	loam			
	8		friable		none observed
Bs2	9				
	10				
	12			10YR3/6	
	14				
	16				
B	18	gravelly			
	20	fine sandy		7.5Y4/4	
	25	loam			
BC	30	V. gravelly	firm	7.5Y4/3	cmp
	35	fine sandy loam			10YR4/6
C	40				
	45	very gravelly			
	50	fine	firm	7.5Y4/3	n/o
	55	sandy loam			
	60				
	65				
	70				
	75				
	80			LOI =	60"

Symbol:	PeA	O Horizon Thickness:	1

Test Pit	XTP-AB-55	Hydric (y/n)	No
Soil Name:	Pew fine sandy loam, very stony		

Horiz	0	Texture	Consistency	Color	Mottling
Ap	1			10YR3/2	
	2				
Bs	3				
	4			10YR3/6	
	5	fine			
	6	sandy	friable		none
B	7	loam			observed
	8				
	9				
	10			7.5Y4/4	
	12				
	14				
	16				
	18				
	20				
	25				
BC	30	very gravi. fine sandy loam	firm	7.5Y4/3	cmp 10YR4/6
C	35				
	40	very			
	45	gravelly	firm	7.5Y4/3	n/o
	50	fine sandy			
	55	loam			
	60				
	65				
	70				
	75				
	80			LOI =	55"

C.S.S.	Name:	Aleita M. Burman	Date:	9/17/19
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED
SOIL SCIENTIST

Aleita Burman

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	LTA	O Horizon Thickness:	1

Test Pit	XTP-AB-56	Hydric (y/n)	No
Soil Name:	Tunbridge fine sandy loam, variant, extremely bouldery		

Horiz	0	Texture	Consistency	Color	Mottling
Ap	1			10YR 3/2	
	2				
Bs	3				
	4				
	5			10YR 3/6	
	6				
	7	fine			none
	8	sandy loam	friable		observed
B	9				
	10				
	12				
	14				
	16			2.5Y 4/4	
	18				
	20				
	25				
	30				
BC	35	v. grav fsl	firm	2.5Y 4/3	cmp 10YR 4/6
R (or C)	40				
	45	bedrock or very large boulder			
	50	@ 36"			
	55				
	60				
	65				
	70				
	75				
	80			LOI = 36"	

Test Pit	XTP-AB-57	Hydric (y/n)	
Soil Name:	Tunbridge fine sandy loam, variant, extremely bouldery		

Horiz	0	Texture	Consistency	Color	Mottling
Ap	1			10YR 3/2	
	2				
Bs	3				
	4				
	5				
	6			10YR 3/6	
	7	fine			
	8	sandy loam	friable		none observed
	9				
	10				
	12				
	14				
	16				
	18				
B	20				
	25			2.5Y 4/4	
BC	30				
	35	very gravelly fine sandy loam			cmp 10YR 4/6
	40		firm	2.5Y 4/3	
	45				
	50				
	55				
R (or C)	60	bedrock or very large boulder			
	65	@ 53"			
	70				
	75				
	80			LOI = 53"	

C.S.S.	Name:	Aleita M. Burman	Date:	9/17/19
			License #:	#SS430

STATE OF MAINE
ALEITA M BURMAN
NO. SS430
CERTIFIED SOIL SCIENTIST

Atlantic Resources Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	PeB	O Horizon Thickness:	1

Test Pit	XTP-AB-58	Hydric (y/n)	No
Soil Name:	Pew cobbly fine sandy loam, extremely bouldery		

Horiz	0	Texture	Consistency	Color	Mottling
Ap	1			10YR3/2	
	2				
E	3				
	4			10YR5/2	
Bs1	5				
	6	cobbley		7.5YR4/6	
Bs2	7	fine	friable		none
	8	sandy			observed
	9	loam		10YR3/6	
	10				
	12				
	14				
B	16				
	18			2.5Y4/4	
	20				
	25				
	30				
BC	35			2.5Y4/3	cmp
	40				10YR4/6
	45	very			
	50	gravelly	firm		
	55	fine			
C	60	sandy		2.5Y4/3	n/o
	65	loam			
	70				
	75				
	80			LOI = 72"	

Test Pit	XTP-AB-59	Hydric (y/n)	No
Soil Name:	Pew fine sandy loam, extremely bouldery		

Horiz	0	Texture	Consistency	Color	Mottling
Ap	1			10YR3/2	
	2				
Bs	3				
	4				
	5				
	6	fine			
	7	sandy	friable	10YR3/6	none
	8	loam			observed
	9				
	10				
	12				
	14				
	16				
	18				
B	20				
	25			2.5Y4/4	
	30				
BC	35				
	40	very			
	45	gravelly	firm		cmp
	50	fine		2.5Y4/3	10YR4/6
	55	sandy			
	60	loam			
	65				
	70				
	75				
	80			LOI = 60"	

C.S.S.	Name:	Aleita M. Burman	Date:	9/17/19
			License #:	#SS430

STATE OF MAINE
ALEITA M BURMAN
NO. SS430
CERTIFIED
SOIL SCIENTIST

Atlantic Resources Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	PeC	O Horizon Thickness:	2
Test Pit	XTP-AB-60	Hydric (y/n)	No
Soil Name:	Sisk my fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1			10YR 6/2	
	2				
Bhs	3			7.5YR 3/4	
	4				
Bs	5				
	6	fine			none
	7	sandy	friable	7.5YR 4/6	observed
	8	loam			
	9				
	10				
B	12				
	14				
	16			10YR 4/6	
	18				
	20				
	25				
BC	30	very			
	35	gravelly			
	40	loamy			cmp
	45	fine	firm	2.5Y 4/3	10YR 4/6
	50	sand			
	55	(w/ lenses			
	60	x grav / no grav)	(rotten rocks throughout)		
	65				
	70				
	75				
	80			LOI =	60"

Symbol:	CgB	O Horizon Thickness:	2
Test Pit	XTP-AB-61	Hydric (y/n)	No
Soil Name:	Croghan fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1			10YR 6/2	
	2				
Bhs	3			7.5YR 3/4	
	4				
Bs	5				
	6	fine			
	7	sandy			
	8	loam	friable		
	9			10YR 4/4	
	10				
	12				
	14				
	16				
	18				
	20	loamy			
BC	25	fine		2.5Y 4/3	
	30	sand			
	35				
	40	loamy			cmp
C	45	very		2.5Y 4/3	10YR 3/6
	50	fine			
	55	sand →			
	60	fine sand			
	65				
	70				
	75				
	80			LOI =	60"

C.S.S.	Name:	Aleita M. Burman	Date:	9/17/19
			License #:	#SS430

STATE OF MAINE
ALEITA M BURMAN
NO. SS430
CERTIFIED
SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	CgC	O Horizon Thickness:	2
Test Pit	XTP-AB-62	Hydric (y/n)	No
Soil Name:	Croghan v.gravelly loamy sand		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2				
	3				
	4	very			
	5	gravelly		10YR3/2	
Ap	6	loamy			
	7	sand			
	8				
	9				
	10				
	12		friable		none observed
	14		to		
	16	very	loose		
B	18	gravelly		10YR4/6	
	20	coarse			
	25	sand			
	30				
	35				
	40				fmd
C	45			2.5Y4/4	10YR4/4
	50				
	55				
	60				
	65				
	70				
	75				
	80			LOI = 60"	

Symbol:	CgD	O Horizon Thickness:	3
Test Pit	XTP-AB-63	Hydric (y/n)	No
Soil Name:	Croghan v.grav fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
Bs1	1	fine		7.5YR3/3	
	2	sandy loam			
	3				
	4	very			
	5	gravelly			
Bs2	6	fine		10YR3/4	
	7	sandy			
	8	loam			
	9				
	10		friable		none observed
	12				
	14				
	16	gravelly			
	18	loamy			
B	20	coarse		2.5Y4/3	
	25	sand			
	30				
	35				
	40				
C	45	sand	loose		
	50			2.5Y4/3	fmd
	55				10YR4/4
	60				
	65				
	70				
	75				
	80			LOI = 60"	

C.S.S.	Name:	Aleita M. Burman	Date:	
			License #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
NO. SS430
CERTIFIED
SOIL SCIENTIST

Atlantic Resource Co, LLC

Soil Description and Classification Form

Project Name:	Three Rivers Solar	Applicant Name:	Three Rivers Solar Power, LLC

Symbol:	BvA	O Horizon Thickness:	2

Test Pit	XTP-AB-64	Hydric (y/n)	NO
Soil Name:	Buxton silt loam, variant		

Horiz	0	Texture	Consistency	Color	Mottling
	1				
	2			10YR4/6	
B_{s_1}	3				
	4				
	5				
	6	silt			none
B_1	7	loam	friable	2.5Y4/4	observed
	8				
	9				
	10				
	12			2.5Y4/3	
B_2	14				
	16				
	18				
	20				cmf
	25	silt	firm		2.5Y4/4
BC	30	loam		2.5Y4/3	cmd
	35				2.5Y5/2
	40				
	45				
2C	50	sand	loose	2.5Y4/3	n/o
	55				
	60				
	65				
	70				
	75				
	80			LL1 =	60"

Symbol:	SrC	O Horizon Thickness:	2

Test Pit	XTP-AB-65	Hydric (y/n)	No
Soil Name:	Skerry fine sandy loam		

Horiz	0	Texture	Consistency	Color	Mottling
E	1			10YR6/2	
	2				
Bhs	3			7.5YR3/4	
	4				
	5	fine	friable		
	6	sandy			none
	7	loam			observed
	8			7.5YR4/6	
B_s	9				
	10				
	12				
	14				
B	16			10YR4/6	
	18				
	20	very			
	25	gravelly			
	30	loamy			cmp
C	35	fine	firm	2.5Y4/3	10YR4/6
	40	sand			
	45	(w verses			
	50	Xgrav-;			
	55	nograv)			
	60				
	65				
	70				
	75				
	80			LOI =	54"

C.S.S.	Name:	Aleita M. Burman	Date:	9/17/19
			Licensee #:	#SS430

STATE OF MAINE
ALEITA M. BURMAN
No. SS430
CERTIFIED
SOIL SCIENTIST

APPENDIX E
Glossary of Terms

APPENDIX E - Glossary of Terms

SOIL ERODIBILITY FACTOR {K}

The soil erodibility factor (K) is a measure of the susceptibility of a soil to particle detachment and transport by rainfall. It is a quantitative value, experimentally determined. Values of K range from 0.02 to 0.69. The higher the value the more susceptible the soil to sheet and rill erosion by water. In the table below, K factors are assigned to each surface textural phase of all soil series in the survey area. The major subhorizons that would be exposed by cutting or scalping are listed below the existing surface phase for each series.

Soil properties that influence rainfall erosion are: (1) those that affect infiltration rate, movement of water through the soil, and the water storage capacity; and (2) those that affect dispersion, detachability, abrasion, and mobility of soil particles by rainfall and runoff. Some of the most important properties are texture and organic matter content of the exposed soil layer, size and stability of structural aggregates in the exposed permeability of the subsoil, and depth to slowly permeable layers. Antecedent soil moisture and presence of frozen soil also influence rainfall erosion.

SOIL CONSISTENCE

Soil consistence refers to "attributes of soil material as expressed in degree of cohesion and adhesion or in resistance to deformation or rupture" (USDA). Consistence includes resistance of soil material to rupture, resistance to penetration, plasticity, toughness, and stickiness of puddled soil material, and the manner in which the soil material behaves when subject to compression (USDA).

HYDROLOGIC SOIL GROUPS

A hydrologic soil group is a class of soils having the same runoff potential under similar storm and vegetative cover conditions. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to seasonally high water table, intake rate, permeability after prolonged wetting, and depth to a very slowly permeable layer. The influence of ground cover is treated independently {not in hydrologic soil groups). The soils in the U.S. are placed into four groups: A, B, C, and D. In the following definitions of the groups, infiltration rate is the rate at which water enters into the soil at the surface and is controlled by the surface conditions. Transmission rate is

the rate at which water moves within the soil and is controlled by the inherent properties of each horizon.

A. (Low runoff potential) Soils in this class have high infiltration rates even when thoroughly wetted and consist chiefly of deep, well drained to excessively drained sands or gravels. These soils have a high rate of water transmission.

B. (Moderately low runoff potential} Soils in this group have moderate infiltration rates when thoroughly wetted. They consist primarily of moderately deep to deep, moderately well drained to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.

C. (Moderately low runoff potential) Soils in this class have slow infiltration rates when thoroughly wetted. They consist mainly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine textures. These soils have a slow rate of water transmission.

D. (High runoff potential) Soils in this class have very slow infiltration rates when thoroughly wetted. They consist primarily of clays oils with a high shrink/swell potential, soils with a permanent high-water table, soils with a clay pan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission.

USDA TEXTURE

USDA texture refers to the U.S. Department of Agriculture's soil texture classification. Soil texture is the relative proportions by weight, of the several soil particle size classes finer than 2 mm in equivalent diameter. The material finer than 2 mm is called the fine earth fraction. Material larger than 2 mm is called the rock fragments.

Soil texture influences both engineering works and plant growth. Soil texture has a strong influence on soil mechanics and the behavior of soil when it is used as a construction or foundations material. It influences such properties as bearing strength, compressibility, permeability, shrink/swell potential, and compaction. Rock fragments also affect construction applications.

Soil texture influences plant growth by its influence on aeration, water intake rate, available water capacity, cation exchange capacity, permeability and workability.

Soil Texture Modifiers

The texture classes may be modified by the addition of suitable adjectives when rock fragments exceed about 15 percent by volume (for example, gravelly loam). The terms "very and "extremely" are used when rock fragments exceed about 35 and 60 percent by volume respectively. "Mucky" and "peaty" are terms used to modify soils when the organic matter content is more then 40 percent (for example, mucky loam).

Terms Used in Lieu of Textures

Organic materials, materials coarser than 2 mm, or materials that limit root penetration are used in a way similar to texture terms. Examples are fibric material, sand and gravel, and unweathered bedrock.

DEPTH CLASSES

Depth Classes	
Very Shallow	<10 “
Shallow	10 to ≤20 “
Moderately Deep	>20 to ≤40 “
Deep	>40 to ≤60 “
Very Deep	>60 “

DRAINAGE CLASSES

Drainage Class refers to the frequency and duration of periods of saturation or particle saturation. Seven classes of soil drainage are recognized:

Excessively drained -Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some have steep slopes. All are free of mottling related to wetness.

Somewhat excessively drained -Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of mottling related to wetness.

Well drained -Water is removed from the soil readily, but not rapidly. It is not available to plants throughout most of the growing season. Wetness does not inhibit growth of roots

for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.

Moderately well drained -Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season. They commonly have a slowly pervious layer within or directly below the solum, or periodically receive.

Somewhat poorly drained -Water is removed slowly enough that the soil is wet for significant periods during the growing season. Somewhat poorly drained soils commonly have slowly pervious layer, a high-water table, additional water from seepage, nearly continuous rainfall, or a combination of these.

Poorly drained -Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. The soil is not continuously saturated in layers below plow depth. Poor drainage results from a high-water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.

Very poorly drained -Water is removed from these soils so slowly that free water remains at or on the surface during most of the growing season. They are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and nearly continuous, they can have moderate of high slope gradients.

PERMEABILITY AND SATURATED HYDRAULIC CONDUCTIVITY

Permeability is the quality of the soil that enables water to move downward through the profile. Permeability is measured as the number of “per hour that water moves downward though the saturated soil. is a “quantitative measure of a saturated soil's ability to transmit water when subjected to a hydraulic gradient. It can be thought of as the ease with which pores of a saturated soil permit water movement.” (USDA)

SURFACE RUNOFF

Surface runoff is the water that flows away from the soil over the surface without infiltrating. The water may come from precipitation or run-on from adjacent areas. The rate and amount of runoff are determined by internal and external characteristics of the soil and by climate and plant cover. Runoff can be significantly different on a soil under natural cover, under cultivation, and under different kinds of management. Differences in runoff can also be caused by difference sin topography and rainfall density. Soils usually have a high rate of runoff when frozen.

Six classes of runoff rates are recognized:

Ponded - Little or none of the precipitation and run-on escapes as runoff. Free water stands on the surface for significant periods of time. The amount of water that must be removed from ponded areas by percolation into and through the soil, by plants, or by evaporation is usually greater than the total rainfall. Ponding normally occurs on level to nearly level soils in depressions or concave positions of the micro relief. Water depth may fluctuate greatly.

Very slow - Sur1ace water flows away slowly, and tree water stands on the surface for long periods or immediately enters the soil. Most of the water passes through the soil, is used by plants, or evaporates. These soils are commonly level to nearly level or are very open and porous.

Slow - Surface water flows away slowly enough that free water stands on the surface for moderate periods or enters the soil rapidly. Most of the water passes through the soil, is used by plants, or evaporates. The soils are nearly level to gently sloping, or they are steeper and absorb precipitation very rapidly.

Medium - Surface water flows away fast enough that free water stands on the surface for only short periods. Part of the precipitation enters the soil and is used by plants, is lost by evaporation, or moves into underground channels. The soils are nearly level to gently sloping and absorb precipitation at a moderate rate, or they are steeper and absorb water rapidly.

Rapidly - Surface water flows away fast enough that the period of concentration is brief and free water does not stand on the surface. Only small portion of the water enters the soil. The soils are mainly moderately steep or steep and have moderate to slow rates of absorption.

Very rapidly - Surface water flows away so fast that the period of concentration is brief and free water does not stand on the surface. Only a small portion of the water enters the soil. The soils are mainly steep or very steep and absorb precipitation slowly.

ADDITIONAL TERMS

Complex - A map unit that consists of areas of two or more kinds of soils that are in a consistently repeating pattern so intricate that the two components cannot be delineated separately at the scale of mapping selected.

Consociation – A map unit that consists of one dominant soil and similar soils that occur in the map unit.

Flooding - Flooding is the temporary covering of soil surface by flowing water from any source, such as streams overflowing their banks, runoff from adjacent or surrounding slopes, inflow from high tides, or any combination of sources. Shallow water, standing or flowing during or shortly after rain or snowmelt is excluded from the definition of flooding. Standing water (see ponding) or water that forms a permanent cover is excluded from the definition.

Flooding hazard is expressed by frequency classes, duration classes, and time of year flooding occurs. Also important are velocity and depth of floodwater.

Map Unit - A collection of soil areas delineated during mapping. It is generally an aggregate of several different bodies of a soil type and named for the principal components.

Ponding - Ponding is standing water in a closed depression. The water is removed only by percolation, transpiration, or evaporation.

Soil Slope - The slope of the soil surface has several distinct properties: gradient, complexity, configuration, length, and aspect. In soil science, slope is considered a property of the soil, not a landform like a ridge or a valley side.

Stoniness - See table of surface phase names and stoniness class attached.

Classes of Surface Stones and Boulders					
Class	% Surface Covered	Distance (meters) between stones or boulders if the diameter is:			Name
		0.25m	0.6m	1.2m	
1	0.01-0.1	≥8	≥0	≥37	Stony or Bouldery
2	0.1-3.0	1-8	3-20	6-37	Very Stony or Very Bouldery
3	3.0-15	0.5-1	1-3	2-6	Extremely Stony or Extremely Bouldery
4	15-50	0.3-0.5	0.5-1	1-2	Rubbly
5	50-90	<0.3	<0.3	<1	Very Rubbly