HEXAGON
ENERGY

March 1, 2021

City of Auburn Planning Board
60 Court Street
Auburn, ME 04210

Dear Members of the Planning Board and other interested parties,

I hope this letter find you well. I am writing to you with further information on the potential impact of Auburn Solar, a 4.0MWac solar array proposed off of North River Road, on prime farmland and agricultural soils, as I am aware that some questions have recently been asked on the topic. Attached to this letter are a fact sheet, a set of soil maps and overlays, and a letter from Dave Moyse at Moyse Environmental Services, together demonstrating that the array not only conforms to all laws and requirements but is beneficial to the agricultural nature of the region.

The Auburn Solar array is to be sited on properties owned by Mr. Terry Dailey and Mr. James Pittman through a long-term lease. The solar array will sit inside a fenced-in area of approximately 17.3 acres, of which—according the the USDA's NRCS Web Soil Survey—only about 1.6 acres is considered prime farmland, 6.8 acres is considered farmland of statewide importance, and the majority of 8.9 acres is considered non-prime farmland. Please see the attached map for reference.

The array is also designed in accordance with local and state ordinances and rules. The City's bylaw requires that a solar array avoid prime farmland unless "non-prime farmland is not reasonably available on the subject property." As can be seen in the attached map, and as further explained in the attached Fact Sheet, the array is designed to use all reasonably-available non-prime land first, and thus it only impacts approximately 1.6 acres of prime farmland altogether.

Maine's Department of Agricultural Conservation and Forestry issued a guidance in May of 2020 for siting solar projects on farmland soils. However, this guideline was designed only for projects applying to sell power to the Maine Public Utilities Commission through a competitive RFP and declining block program, and the guideline is to be used as a means for ranking project attributes, not governing permissible locations. Auburn Solar is being built under the separate Net Energy Billing Program, which allows Maine residents to purchase power from the array to offset their home energy usage. Thus, the guidance document has no bearing or authority over this project. That said, it is our goal to develop this array within the spirit of the guideline, which is why we have designed the array to minimize its impact on prime farmland. Please see Mr. Moyse's attached letter further explaining this, noting that much of the impacted farmland of statewide importance is considered sub-par for agriculture based on rocky soil and a high water table.

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The City of Auburn prides itself in its agricultural heritage and production, and the Auburn Solar array will ultimately help the City preserve its agricultural nature. In addition to creating clean energy for around 600 homes, the array will not require the removal of topsoil or any significant grading, beyond smoothing areas with slopes greater than 20%. Thus, at the end of the project's 25-year lifecycle, the array will be removed and the land can go back into agricultural production; the solar array is not a permanent development.

Finally, the array will bolster local agriculture and wildlife, as the land under and around the panels will be planted with a bee- and butterfly-friendly mix of local grasses and flowering plants. The increased presence of these pollinators will improve local agriculture. Mr. Dailey has mentioned that he plans to use his land surrounding the array to grow crops and plants that will benefit from these pollinators once the array is installed and that he is looking forward to it.
It is also worth noting that, as the developer and owner of the array, we will not control or care much about what happens outside of the fenced area of the array, so long as any activities do not damage the array or cause an increase of shade on the panels. If the landowner is open to having the surrounding area farmed, we are in full support of it.

Please do not hesitate to contact me with any additional questions or comments, and I look forward to seeing you on the evening of March 9.

Sincerely,

J. Scott Remer
Senior Development Manager

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Auburn Solar: Soils Fact Sheet

Map of Proposed Solar Array Overlaid on USDA Soils

The attached figure shows an approximate overlay of the proposed Auburn Solar array on the USDA's NRCS Web Soils Survey Map. The figure shows non-prime farmland in red, prime farmland in green, and farmland of statewide importance in blue. The project area inside the fence is about 17.3 acres, of which the majority consists of non-prime soils. The approximate areas of each type of soil contained in this fenced area are as follows:

Total Fenced Area:	**17.3 acres**
Non-Prime Farmland Soils	8.9 acres
Farmland of Statewide Importance	6.8 acres
Prime Farmland	1.6 acres

The majority of the proposed solar array thus sits on non-prime farmland, with most of the rest of the area consisting of farmland of statewide importance. Only about 1.6 acres of prime farmland is contained in the project area.

Local Ordinance Dictating Usage of Prime Farmland for Solar Arrays

Section 60-145, Point 19(g) of the City Ordinance states the following:

> *g. Prime soils.* All solar energy generating systems proposed in the agriculture and resource protection district shall include a soil analysis. Such analysis shall demonstrate if the site proposed for development contains prime farmland as defined by the United States Department of Agriculture (USDA). Least productive agricultural soils shall be considered first for development unless it can be demonstrated to the planning board that:
>
> 1. Non-prime farmland is not reasonably available on the subject property.

The solar array is primarily situated on non-prime farmland, sitting on only 1.6 acres of it. It is designed to use all other reasonably available non-prime farmland space first, and it only breaches into the prime farmland and the farmland of statewide importance because of the presence of wetlands, slopes, and forests that preclude solar development on the other non-prime areas.

The northwest corner of the southern solar array does clip a small portion of Prime Farmland, about half an acre of it. We are able to move these panels out of this half acre and shift them southwest into non-prime land. However, we have not done so because this would block access to the area behind the array, making it more difficult to access for agricultural access.

State Guidance on Prime Farmland

In May 2020 the Maine Department of Agriculture Conservation and Forestry issued a guideline document title "Determining Prime Farmland and Soils of Statewide Importance for Siting Solar Projects in Maine." This document provides details on how to determine the area of prime or statewide-important farmlands impacted by a solar array.

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While the guidelines provided in the document are helpful, it should be noted that the guideline has no authority over solar projects like Auburn Solar. The guideline was developed to help the Public Utilities Commission (PUC) determine whether a solar project could gain priority ranking in a competitive RFP for power offtake based on the project's minimization of impact to prime soils, and it only applies to projects seeking offtake under the PUC's RFP program. Auburn Solar, and other projects like it, are being developed under Maine's Net Energy Billing program, for which no such guideline exists.

Still, it is admirable to try and meet the guidelines provided in the document, and we have designed Auburn Solar to minimize its negative impact on prime and active farmland. Please see the attached letter from our environmental consultant, Dave Moyse of Moyse Environmental, for a deeper explanation.

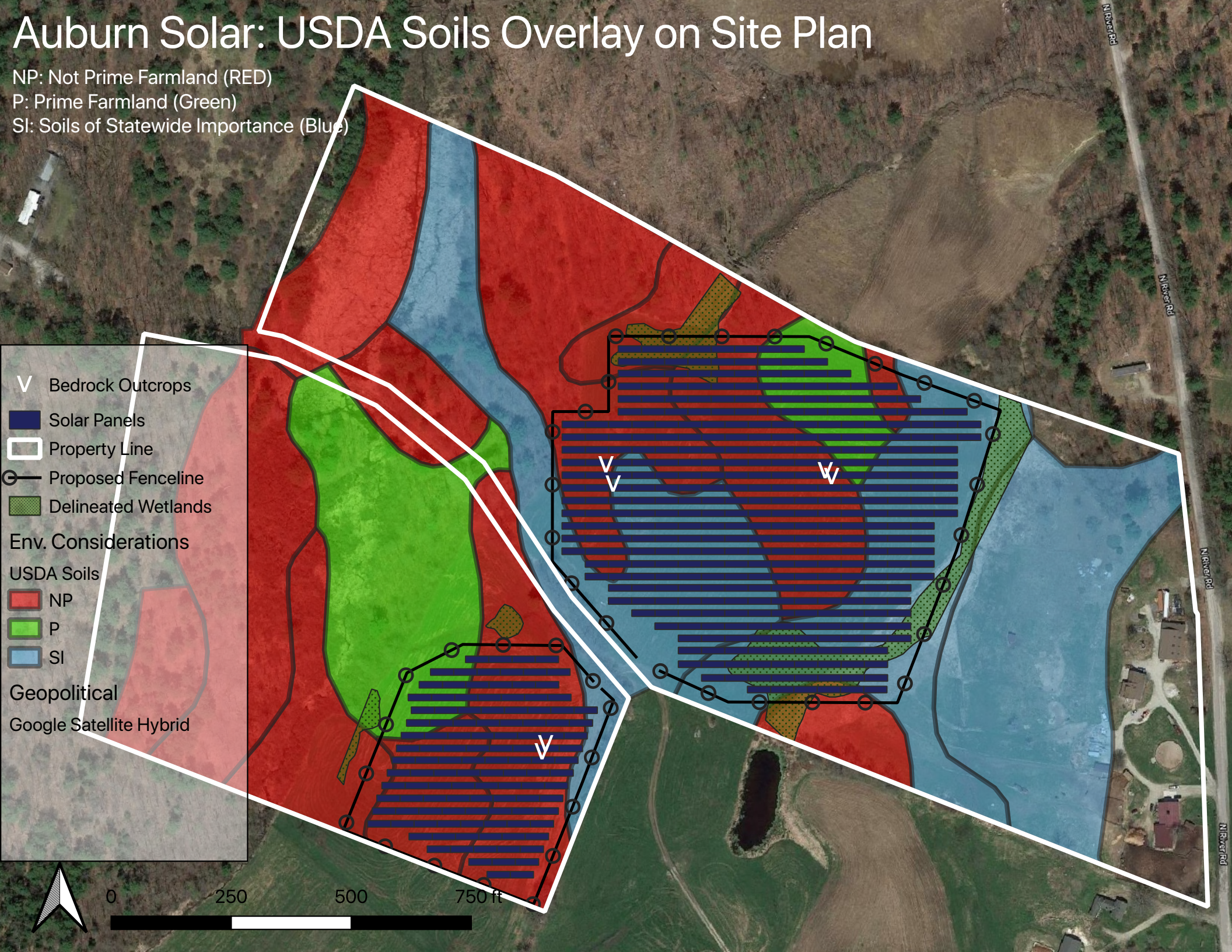
Thus, Auburn Solar is in full compliance with both state and local regulations in terms of its soil impacts.

Continued Agricultural Use of Property During and After Solar Array

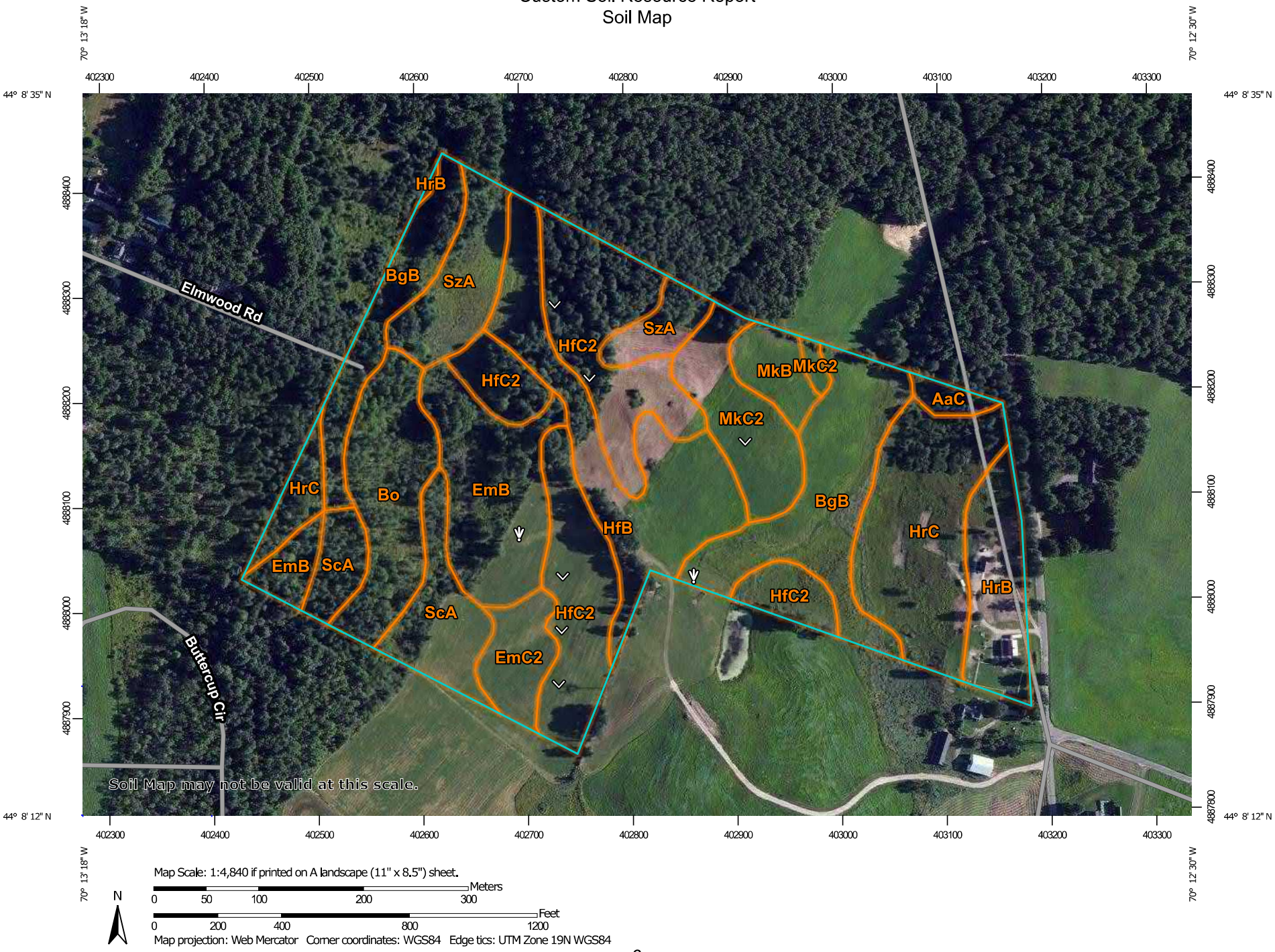
The land under and around the Auburn Solar array will, in addition to creating clean energy, contribute to agricultural production in the region. We will plant a pollinator-friendly mix of local grasses and flowering plants to foster bees, butterflies, and other pollinating micro-fauna. Terry Dailey, the largest landowner of the project, has remarked that he is excited about this increased presence of pollinators, as he intends to us other portions of his property for agriculture, likely for growing flowers or fruits and vegetables. Thus, the solar array will not only generate clean energy, it will also serve the dual-use purpose of bolstering local agriculture through providing a robust pollinator habitat.

Auburn Solar: USDA Soils Overlay on Site Plan

NP: Not Prime Farmland (RED)
P: Prime Farmland (Green)
SI: Soils of Statewide Importance (Blue)



Custom Soil Resource Report
Soil Map



Map Scale: 1:4,530 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

MOYSE
ENVIRONMENTAL
SERVICES
Environmental and
Land Use Consulting

January 21, 2021

Hexagon Energy, LLC
Attn: Mr. Scott Remer – Development Manager
722 Preston Ave., Suite 102
Charlottesville, VA 22902

RE: Prime Farmland Review
Hexagon Energy – "Auburn Solar" Project
1054 North River Road
Auburn, Maine

In response to your request, we have reviewed the NRCS Soil Survey maps and compared them and our field notes to the NRCS Prime Farmland criteria and the guidance of the Maine Department of Agriculture. The project is a 4MWac Solar Array being proposed for about 18 acres of leased existing farmland. The purpose of this review is to assess if the land on-site for the proposed Auburn Solar project contains a predominance of soils that are considered either "prime farmland" or "farmland of statewide significance". The existing farm land is obviously "active" and is being used to produce crops, but the question is whether or not they highly productive and capable of high yields that deserve some type of special protection or consideration during this project planning process (see attached maps and soils listing). We understand that this project is not under the rule of the PUC's RFP Program, so the PUC's "no more than ten percent (10%) of project is to be located on land containing soil defined by the USDA Natural Resources Conservation Services as "Prime Farmland" or "Farmland of Statewide Importance" is not a mandatory requirement. However, we also understand that there have been some concerns "voiced" in opposition to the use of this land for the solar array and those concerns need to be addressed in some formal manner as part of the local Planning Board review.

From the State Soil Scientist David Rocque, Maine Department of Agriculture:

TECHNICAL GUIDANCE:
Although Prime Farmland and Soils of Statewide Importance are listed by the USDA's Natural Resource Conservation Service (NRCS) which can be cross-referenced to widely available soil maps, these maps are not sufficient for calculation because their classification is based on soil map *units*, not soil series. All map units contain other soils besides the soil series for which a soil map unit is named. In addition, it will not be known where in the range of characteristics allowed for every soil series that the soil series on the property is until an on-site investigation is performed. Further, NRCS soil mapping concepts have changed over time and new soil series have been established since many of the soil maps were created. Also important is that significant alteration of the underlying soils may have occurred after the soil maps were made. As a result, the determination of whether a proposed solar project site has less than 10% of its soils meeting the definition of Prime Farmland or Farmland of Statewide Importance requires an on-site investigation using established technical criteria.

How to Determine if a Soil is Prime Farmland:

1. You do not have to determine the soil moisture regime. All of Maine has a soil moisture regime that qualifies (aquic or Udic)
2. You do not have to determine the soil temperature regime (frigid and mesic qualify). Cryic does not qualify, however.
3. **You do have to determine the groundwater table depth**. The depth to groundwater table must be deep enough during the cropping season to allow cultivated crops common to the area to be grown (24" or deeper has been chosen to meet this criteria). The soil can also be drained and qualify if the ground water table is a at depth of less than 24".
4. You should not have to determine soil pH as the allowable range is 4.5 – 8.4.
5. **You do need to determine surface stoniness**. To qualify as prime farmland, there can't be enough stones to interfere with farming.
6. **You do need to determine the erodibility of the soil** by looking up the K factor and multiplying it by the slope. In order for the soil to be prime farmland, the product of that multiplication has to be less than 2.0.
7. **You do need to determine whether or not the soil floods less often than once in every 2 years**, required in order to be prime farmland.
8. **You do need to determine the permeability rate of the soil** which must be equal to or more than 0.06 inches per hour in the upper 20". Base this decision on the presence or absence of a "root restrictive layer" including hardpan or bedrock. Layers above a root restrictive layer will have a permeability of 0.06" per hour or more. Layers below a hardpan or bedrock will not have adequate permeability.
9. **You do need to determine the percent of the surface layer (upper 6") that is coarse fragments over 3".** It must be less than 10% in order to qualify as a prime farmland.
10. **You may need to determine an adequate and dependable water supply** from precipitation or irrigation. Soils that are somewhat excessively or excessively drained would not qualify as prime farm lands unless irrigated.

How to Determine if a Soil is of Statewide Importance:

1. Does not meet Prime Farm land criteria.
2. **Does not have a seasonal groundwater table within 16 inches** of the mineral soil surface during the growing season of most years (moderately well or well drained).
3. Are **less than 15% slope**.
4. Have **less than 3% cover of rocks or stones greater than 10 inches in diameter and less than 40 % cover of rocks less than 10 inches but more than 2" in diameter**.
5. Are **more than 20 inches to a root restrictive layer** (hardpan or bedrock)
6. Have **greater than 2 inches of available water holding capacity in the upper 20 inches** of soil (loamy fine sand or finer).
7. NRCS further requires areas designated as of statewide importance to be composed of at least 50% coverage of soils meeting the criteria. That means small areas of soils meeting the criteria scattered about a site do not have to be added up as they would not be realistically farmable (similar to pit and mound topography in wetland determinations where you use what predominates).

Given the based on the above guidance and our observations, the soils listed as "prime farmland" (PF) in the NRCS documents occupy about 10% of the site area, being the Elmwood and Adams (formerly Merrimac series) soils. About half of the site is on soils that are listed as either PF or "Farmland of Statewide Importance", including the Nicholville (formerly Belgrade series), Salmon

(formerly Hartland series) and Lyman (formerly Hollis series) soils. However, please note as stated above, the fact that the NRCS soils map shows those soils on their maps and that they are listed does not replace the actual on-site observations of a Maine Licensed Soil Scientist, such as me.

The soils on-site actually vary somewhat from the NRCS mapping, which is typical, as the NRCS mapping is done based on aerial interpretation with minimal "ground truthing". For example, the map unit labeled BgB is supposed to be a Nicholville soil that is moderately well drained, but we actually found soils that were either somewhat poorly drained poorly drained (Roundabout series) that contain freshwater wetlands. These are certainly not close to being "prime" land of any kind. We did not observe a predominance of soils that are consistently free of a seasonal water table within 24 inches of the soil surface. Some areas are shallow to bedrock, being the Lyman series, with restrictive layers and lower permeabilities within 20 inches. The soils on this site have obviously been productive for many years. However, it is our opinion we do not believe that they are "highly productive", capable of large yields with few limitations, which are the soils that the NRCS criteria was intended to define and label for special consideration. The soils on this site are common, but not deserving of a protection as a rare or threatened resource. Only a relatively small portion would be considered "prime farmland". Also, it is our understanding and an important note that the installation of a solar array does not permanently alter the characteristics of the soils, but simply removes it from production during their use, eventually returning the site back to farm land once the panels have been removed.

We appreciate the opportunity to be of assistance on this project. Please contact us if you have any questions or need additional information.

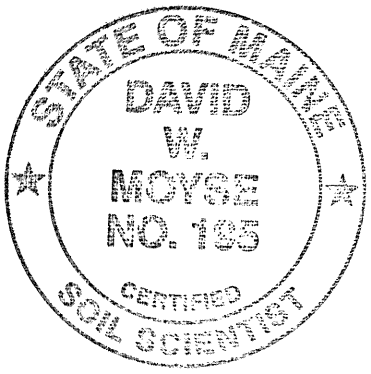
Sincerely,

MOYSE ENVIRONMENTAL SERVICES

David W. Moyse, CSS, LSE

President

cc: File



ANDROSCOGGIN AND SAGADAHOC COUNTIES, MAINE

PRIME FARMLAND SOILS

AdA Agawam fine sandy loam, 0 to 2 percent slopes
AdB Agawam fine sandy loam, 2 to 8 percent slopes
CfB Charlton fine sandy loam, 0 to 8 percent slopes
EmB Elmwood fine sandy loam, 2 to 8 percent slopes
Ha Hadley silt loam
MeB Melrose fine sandy loam, 0 to 8 percent slopes
MkB ~~Merrimac~~ fine sandy loam, 0 to 8 percent slopes
NgB Ninigret fine sandy loam, 0 to 8 percent slopes
On Ondawa fine sandy loam
PbB Paxton loam, 2 to 8 percent slopes
Py Podunk fine sandy loam
SxB Sutton loam, 0 to 8 percent slopes
WrB Woodbridge loam, 0 to 8 percent slopes
Wn Winooski silt loam

ADDITIONAL FARMLAND SOILS OF STATEWIDE IMPORTANCE

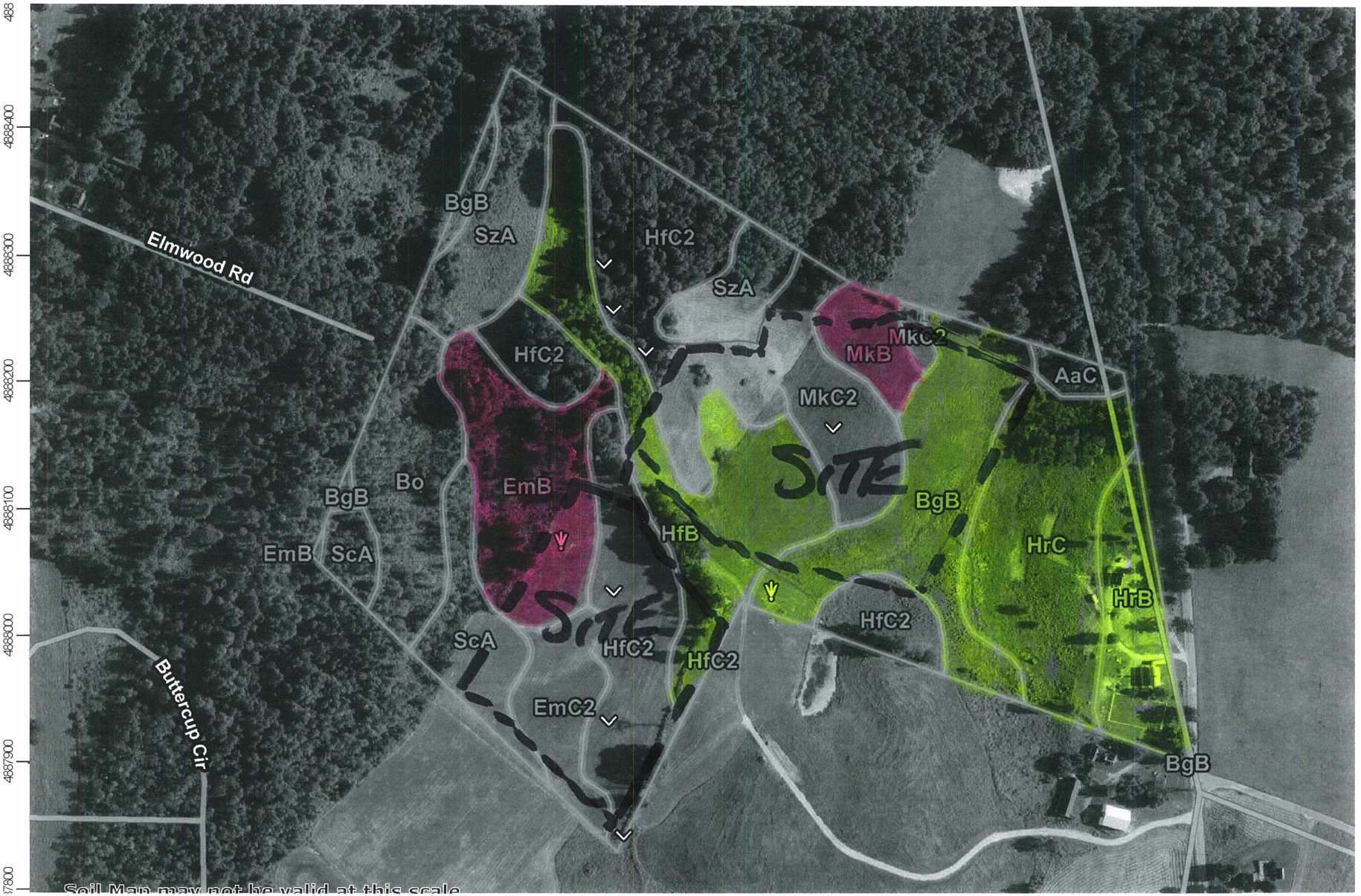
AaB Adams loamy sand, 0 to 8 percent slopes
AdC Agawam fine sandy loam, 8 to 15 percent slopes
BgB ~~Belgrade~~ very fine sandy loam, 2 to 8 percent slopes
BgC Belgrade very fine sandy loam, 8 to 15 percent slopes ***HEL***
HfB ~~Hartland~~ very fine sandy loam, 2 to 8 percent slopes
HkB Hinckley gravelly sandy loam, 0 to 8 percent slopes
HrB ~~Hollis~~ fine sandy loam, 0 to 8 percent slopes
HrC ~~Hollis~~ fine sandy loam, 8 to 15 percent slopes ***HEL***
PbC Paxton loam, 8 to 15 percent slopes
SxC Sutton loam, 8 to 15 percent slopes

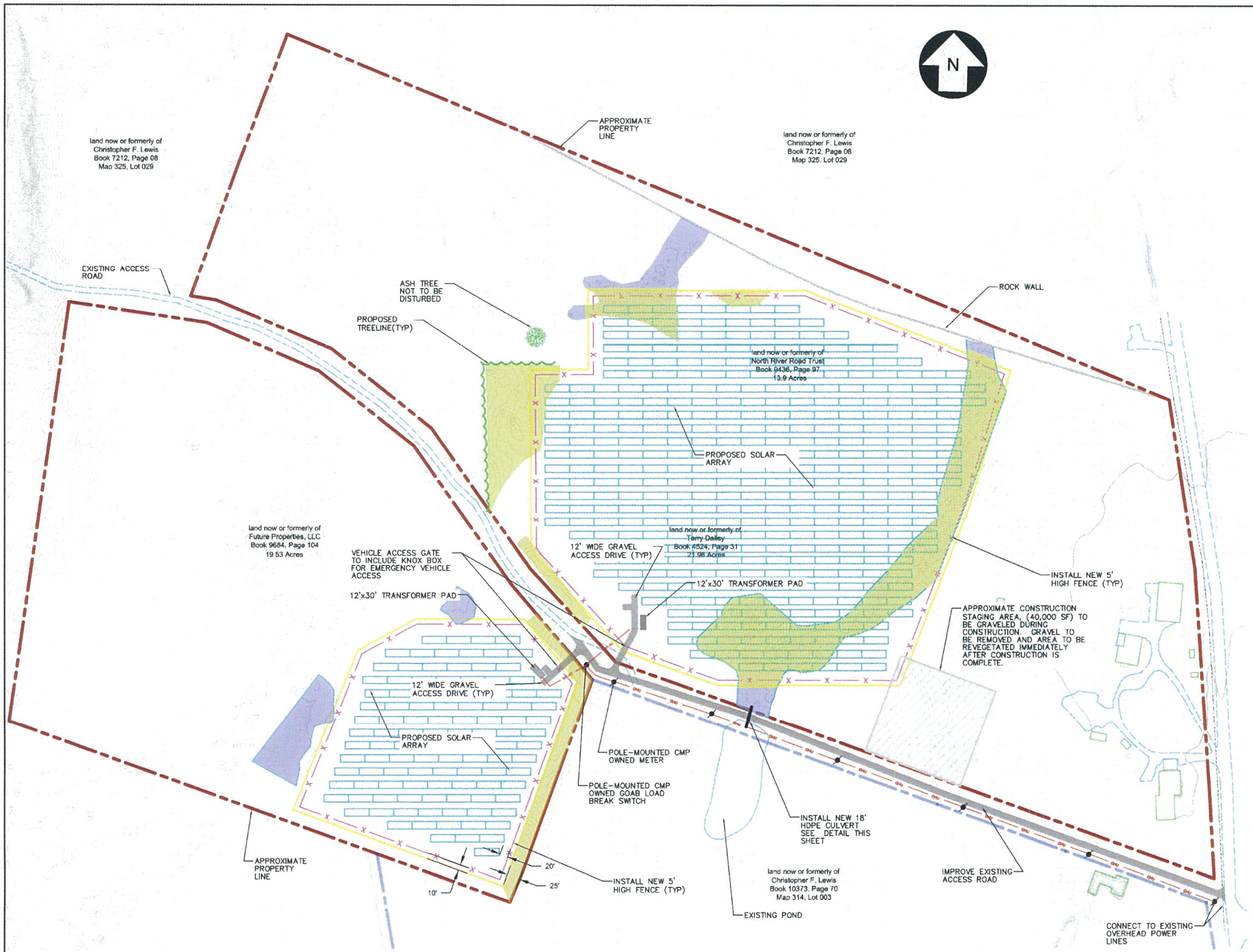
ADDITIONAL FARMLAND SOILS OF LOCAL IMPORTANCE
"ONLY areas that are currently non-forested open lands"

AaC Adams loamy sand, 8 to 15 percent slopes
BuB2 Buxton silt loam, 0 to 8 percent slopes, eroded
BuC2 Buxton silt loam, 8 to 15 percent slopes, eroded
CfC2 Charlton fine sandy loam, 8 to 15 percent slopes, erode d
ChB Charlton very stony fine sandy loam, 0 to 8 percent slopes (**Prime farmland if stones removed)**
ChC Charlton very stony fine sandy loam, 8 to 15 percent slopes **(Statewide importance if stones removed)**
EmC2 Elmwood fine sandy loam, 8 to 15 percent slopes, eroded
HfC2 Hartland very fine sandy loam, 8 to 15 percent slopes, eroded ***HEL***
HkC Hinckley gravelly sandy loam, 8 to 15 percent slopes
MeC Melrose fine sandy loam, 8 to 20 percent slopes
MkC2 Merrimac fine sandy loam, 8 to 15 percent slopes, erode d
PfB Paxton very stony loam, 0 to 8 percent slopes **(Prime farmland if stones removed)**
PfC Paxton very stony loam, 8 to 15 percent slopes **(Statewide importance if stones removed)**
WsB Woodbridge very stony loam, 0 to 8 percent slopes **(Prime farmland if stones removed)**
SuC2 Suffield silt loam, 8 to 15 percent slopes, eroded
SyB Sutton very stony loam, 0 to 8 percent slopes **(Prime farmland if stones removed)**
SyC Sutton very stony loam, 8 to 15 percent slopes **(Statewide importance if stones removed)**
ScA Scantic silt loam, 0 to 3 percent slopes

PRIME

STATEWIDE IMPORTANCE

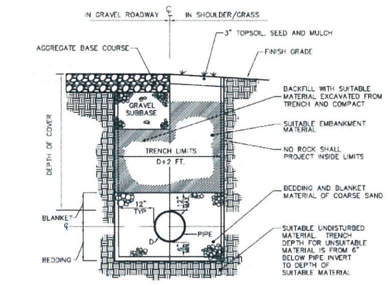




SITE PLAN

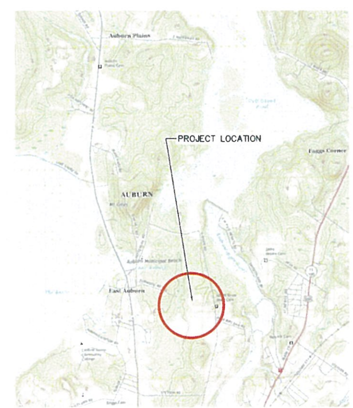
LEGEND

- PROPOSED FENCE
- LIMITS OF DISTURBANCE
- PROPERTY LINE
- ABUTTER PROPERTY LINE
- EXISTING CONTOUR
- OHE — OVERHEAD ELECTRICAL
- UTILITY POLE
- PROPOSED UTILITY POLE
- DELINEATED WETLAND
- WETLANDS FILLED
- AREA TO BE CLEARED
- PROPOSED GRAVEL ACCESS ROAD
- PROPOSED STAGING AREA



TYPICAL CULVERT TRENCH DETAIL

SCALE: NTS



LOCUS MAP

GENERAL NOTES

1. **PROPOSED GRADES:** THE SOLAR ARRAY PROPOSED GRADES SHALL GENERALLY FOLLOW EXISTING GRADES AND LINES OF THE PROPERTY. MINOR AREAS OF EXCAVATION AND FILL WILL BE REQUIRED FOR CONSTRUCTION OF THE ARRAY. FINAL PANEL LAYOUT AND GRADING SHALL BE SUPPLIED BY THE EPC CONTRACTOR.

2. **CONTRACTOR'S TEMPORARY HAUL ROUTES:** THE EXACT LOCATION OF THE CONTRACTOR'S TEMPORARY EQUIPMENT ACCESS / HAUL ROUTES SHALL BE DETERMINED IN THE FIELD BY THE OWNER AND THE RESIDENT ENGINEER. ACCESS ROUTE PASS ONTO PUBLIC STREETS, HAUL ROADS SHALL BE MAINTAINED DAILY. HAUL ROADS AND OTHER DISTURBED AREAS SHALL BE FULLY RESTORED IN ACCORDANCE WITH THE CONTRACT SPECIAL PROVISIONS AND IS CONSIDERED INCIDENTAL TO THE PROJECT. ANY DAMAGE TO PUBLIC ROADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER OR TOWN.

3. **CONTRACTOR STAGING AREA:** THE LOCATION OF ALL CONTRACTOR STAGING AREA(S) AND MATERIAL STOCKPILE AREA(S) SHALL BE APPROVED IN ADVANCE BY THE ENGINEER AND SHALL BE LOCATED AS INDICATED ON THIS PLAN. STAGING AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITIONS AND RESTORATION SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

4. **DEBRIS AND DUST CONTROL:** THE CONTRACTOR SHALL STRICTLY CONTROL DEBRIS AND LITTER AT THE WORKSITE. MUD, STONES OR OTHER DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS SHALL BE PROMPTLY AND COMPLETELY REMOVED FROM PAVEMENTS AS NEEDED. DEBRIS AND DUST CONTROL SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

5. **BURIED UTILITIES:** THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL BURIED UTILITIES PRIOR TO ANY EXCAVATION. ANY DAMAGE TO SUCH UTILITIES BY THE CONTRACTOR SHALL BE REPAIRED/REPLACED IMMEDIATELY BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.

AVIEST ENGINEERING
120 RABBIT RIDGE RD
WOODLAND, MAINE 04736
TEL: (207) 227-1057

NO	DATE	DESCRIPTION	BY	CK'D
1	01-07-2021	FOR CLIENT REVIEW	AS	SMM

AUBURN SOLAR LLC
722 PRESTON AVE
SUITE 102
CHARLOTTESVILLE, VA
22903

AUBURN 4MW SOLAR ARRAY
NORTH RIVER ROAD
AUBURN, MAINE

SHEET TITLE

SITE PLAN AND DETAILS

DRAWN BY	DATE
AS	DEC. 2020
CHECKED BY	A.E PROJECT #
SMM	201001
PROJ. ENG.	A.E ARCHIVE #
SMM	

SHEET NUMBER

C1

SHEET 1 OF 2

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