EXHIBIT G

Foundation Design, P.C.

SOIL ● BEDROCK ● GROUNDWATER

August 9, 2022

YSG Community Solar
79 Madison Avenue, 2nd Floor
New York, New York 10016

Attention: Mr. David Magid

Reference: Briarcliff Solar Facility/Ridgewood Solar Facility
345 Scarborough Rd, Briarcliff Manor, New York
Geotechnical Evaluation, 5184.0

Dear Mr. Magid:

This report summarizes our geotechnical evaluation for the referenced project. We understand you intend to construct two, 5.0 mW solar array systems to be located west of Scarborough Road in Briarcliff Manor, New York. We base this evaluation on our review of U.S.G.S. topographic and geologic mapping; NYS geologic mapping; NRSC Soils mapping; FEMA flood plain mapping; new soil boring exploration; field and lab testing; and consultation with the design team. YSG Community Solar retained Foundation Design, P.C. to perform the services outlined in our March 29, 2022 *Geotechnical Services Proposal, P5032.0*. We intend this report for use exclusively on this project.

The Briarcliff/Ridgewood Solar Facilities will be located at 345 Scarborough Road in Briarcliff Manor, New York. A *General Location Plan* on 2019 U.S.G.S. topographic mapping is attached to this report. Shadow Brook Lane will divide the two solar sites; an existing building that will soon be demolished is on the northwest end of the parcel. The site is surrounded by wooded areas on all sides. The parcel is currently a mixture of overgrown lawn and lightly wooded areas. U.S.G.S. topographic mapping indicates that surface grades vary roughly 40 feet across the site.

We completed soil borings B22-1 through B22-12 between July 11 and July 12, 2022. CME Associates, Inc. provided a CME 55 ATV drill rig equipped with an auto hammer for the SPT soil sampling. The drill crew advanced the soil borings using hollow stem auger casings, recovering split spoon soil samples in accordance with ASTM D-1586. They recovered samples continuously to 10 feet, then five foot intervals until completion.

We terminated the soil borings between 13.1 and 15.0 feet below grade. Our staff established the soil boring locations using a handheld GPS unit; these locations are enclosed. The boring surface elevations were approximated using the provided site survey. A *Boring Location Plan* and the soil boring logs are enclosed.

While on-site, we performed five, 4-point Wenner soil resistivity tests (ASTM G-57). We used an AEMC 4620 digital ground resistance meter for testing. Pins were spaced at 10 foot intervals and inserted six inches below grade. The measured in-place soil resistance is in Table No. 1 below.

Table No. 1 – 4-Point Wenner Field Resistivity Test Results

Location	Resistivity (ohm-cm)
B22-3	21,639
B22-5	21,218
B22-10	49,100
B22-11	84,298
B22-12	35,619

Upon completion of the fieldwork, we selected representative soil samples for laboratory testing. The testing program consisted of five sieve analyses (ASTM D-1140), five moisture content tests (ASTM D-2216), five soluble chlorides tests, five soluble sulfates tests, 5 pH tests (ASTM D-4972) and 5 laboratory soil box resistivity tests (ASTM G187-12a). Additionally, we retained 3rd Rock, LLC to perform a soil thermal conductivity test (ANSI/IEEE 442) and Standard Proctor test (ASTM D-698). The test results are discussed below. The laboratory reports are enclosed.

We recovered a bulk sample of material at B22-12 for the soil thermal conductivity testing. The Standard Proctor test indicates that the bulk sample has a maximum dry density of 116.3 pcf that occurs at a moisture content of 13.3 percent. We asked the lab to condition the bulk sample to 95 percent of the maximum dry density (110.5 pcf) for the soil thermal conductivity testing. The soil thermal conductivity values (Rho) documented as the material dried out are shown in Table No. 2 below.

Table No. 2 – Soil Thermal Conductivity Test Results	
Dry Out Curve Test Results (B22-2)	
Moisture Content (%)	**Thermal Resistivity (ºC*(cm/W))**
1.3	295.9
4.8	106.5
8.5	85.0
12.0	60.6
16.3	53.5

We encountered a general subsurface profile consisting of topsoil or asphalt and subbase, underlain by sandy silt over silty sand with gravel, then weathered bedrock. The surface topsoil ranged from 6 to 10 inches thick, averaging 7 inches. Asphalt was between 3.0 and 8.0 inches, with subbase between 5.0 and 13.0 inches thick, consisting of crushed stone or sand and gravel. Fill soils were noted at B22-7 down to eight feet below grade. The fill consisted of native soils mixed with wood, most likely from when the existing building was constructed. The underlying native soils consist of loose to compact sandy silt over a firm to very dense silty sand with gravel. Soils classify as SM or ML, with moisture contents between 4.5 and 18.2 across the site.

Near the center of the site, a weathered metamorphic rock was found between depths of three and six feet. The N-values rated the weathered rock as very dense, but augered very easily. Competent bedrock was not encountered at any of the soil borings. Geologic mapping indicates that the bedrock is the Trenton Group and Metamorphic Equivalent. The bedrock consists of Gneiss, Amphibolite and Schist, all metamorphic rocks.

Groundwater was only encountered at B22-2 at 14.8 feet below grade. We believe that the water is most likely perched above the dense soils. Recognize that these depths reflect the condition at the time that the fieldwork was completed; expect groundwater levels to fluctuate seasonally.

As part of this evaluation, we performed laboratory testing to assess the corrosive environment on-site. This testing consisted of soluble chloride concentrations, soluble sulfates concentrations, pH determinations, and lab resistivity tests. Table No. 3 below summarizes the test results.

Table No. 3 - Corrosion Test Results				
Boring Location	**Lab Resistivity (Ω-cm)**	**pH**	**Soluble Chlorides (mg/L)**	**Soluble Sulfates (mg/L)**
B22-3	69,000	5.7	36	36
B22-5	70,000	5.6	35	35
B22-10	51,000	5.9	35	35
B22-11	19,000	5.4	34	34
B22-12	69,000	5.3	34	34

It is our opinion that the soil does not have the potential to develop a corrosive environment. While the Westchester County NRSC mapping indicates that the soil may present a corrosive environment for steel, our site specific testing indicates that the chloride and sulfate levels were below the detectable limits, pH levels are over 5, and the lab resistivity tests yielded high values.

Based on the above, we make the following specific recommendations:

1. The following is a brief discussion of overall geologic conditions for this parcel:

- Site Usage: We reviewed 1892, 1936, 1955, 1986, and 2019 U.S.G.S. topographic mapping. The parcel does not appear to have been developed, prior to the current building and roadway. Topographic contour lines have not changed outside of the existing building area. The borings indicate that up to seven feet of fill may be present around the existing development.

- Flooding: FEMA National Flood Hazard mapping indicates the site lies in Zone X, an area of minimal flooding.

- Erosion: The site is configured with slight slopes not likely to result in significant erosion developing. NRSC soils mapping does not indicate that significant surface erosion features are present and rates the soil as moderate for erosion to develop.

- Seismicity: The Ramapo Fault Complex, an inactive fault system, lies within 10 miles of the site. The largest earthquakes that have been documented in this area since 1638 were 5.2 earthquakes in 1737 and 1884 in greater NYC, a 5.2 earthquake in 1929 in Attica, 5.6 in 1944 in Massena, 5.1 earthquake in Goodnow, and a 5.2 in 2002 in AuSable Forks. This Class C fault has been geologically defined, but no evidence developed shows that it has experienced seismic activity in the last million years (within the Quaternary Period).

- Liquefaction: We do not expect these soils to be liquefiable during an anticipated seismic event.

- Expansive Soils: The NRSC mapping and lab testing indicates soil types of SM, and ML are present. Based on this, we do not expect these soils to be expansive.

- Sinkholes: We are not aware of any sinkhole developments in these areas or karst bedrock conditions that could lead to sinkhole development.

2. Clear and grub the solar array area. If re-grading is required, remove the surface topsoil prior to starting the grading operations. The contractor should provide a loaded ten-wheel truck or similar heavy construction equipment for the proof-rolling. Rework or replace as directed areas that rut, weave, quake, or are otherwise deemed unsuitable prior to starting the filling operations.

3. The near surface on-site soils are silty; they will tend to be moisture sensitive and frost susceptible. If planning to reuse the on-site soil as structural fill, plan for the earthwork/utility backfilling to be performed during the drier summer months.

   For this report, we define structural fill as mass fill placed as part of any re-grading operations, new fill placed under and around the new foundations, backfill of utility trenches, mass fill of the demolished building basement and new fill placed for access roadways. Place and moisture condition structural fill to within two percent of optimum moisture. Compact structural fill to at least 95 percent of maximum dry density as determined by the Standard Proctor method, ASTM D-698. Place fill in loose lifts not exceeding twelve inches thick. Maintain good surface drainage.

4. When demolishing the existing building, remove all foundations that will be within five feet horizontal and ten feet vertical of the solar array. Remove all abandoned utilities in the solar array and relocate any active utilities outside of the solar array. Remove demolition debris offsite or pile the debris in berms along the outside of the arrays. DO NOT leave any demolition debris in the solar array area, doing so would complicate installation of the piles and could impact the lateral support.

   We recommend that the foundation and utility removal excavations be backfilled with on-site soil to the structural fill standards outlined above. Our concern with using an imported granular material is that it will create an area for water to 'pool', potentially causing frost issues in the winter. If needed, consider lowering the site grading to produce more on-site soil for backfill in lieu of importing fill. If the existing building has a basement and requires imported fill, contact us and we can give specific recommendations/values.

5. Using values from the nearby Dobbs Ferry Station (elev. 240), assume the mean annual temperature of 53.0ºF, and the Air Freezing Index Return Periods (ºF-Days) tabulated below:

Table No. 4 – Air Freezing Index Return Periods (ºF-Days)		
5-Year	**10-Year**	**20-Year**
329	398	458

Based on these Air Freeze values and assuming a clear, turf surface condition, we recommend designing for one of the frost depths tabulated below. While each frost depth is based on a technically sound method, the frost depths vary based on the risk tolerance that you are willing to accept for your array. We recommend using an ad-freeze value of 10 psi for the sandy silt/silty sand loam soil within the frost zone.

Table No. 5 – Frost Depth versus Risk Tolerance		
Basis of Frost Depth	**Risk Tolerance**	**Frost Depth**
Local Building Code for Structural Foundations	Conservative/Reduced Risk	36 inches
ACOE Design Manual	Moderate/Medium Risk	18 inches
NE Regional Climate Center Report RR 96-1	Aggressive/Elevated Risk	13 inches

6. We understand that the preferred foundation system would consist of the light-weight steel I-beams (W 5x7), small diameter (2 to 4 inch) steel pipe piles, or C-channel (GC 5x6). It is our opinion that these types of systems are viable for the soil conditions expected. Pre-drilling of the piles should be expected due to cobbles and weathered bedrock that may limit the penetration depths. Plan on pre-drilling one third of the piles for the project, mainly located in the area of B22-4, B22-9, B22-10, and B22-11. The racking system design should account for frost action by providing uplift resistance to the ad-freeze forces or installing 2-inches of Type VII XPS insulation board around the piles a distance equal to the frost depth selected but no less than 30 inches.

For preliminary estimating, assume the soil properties outlined in Table No. 6 below. These values have been developed assuming a pile pentration of at least 8 feet; no factor of safety has been applied to these values. We recommend performing uplift and lateral load tests to confirm that the required design resistance is developed and that production piles be installed using equipment and methods similar as those used during the test pile installation process.

Table No. 6 – Soil Properties	
Soil Property	**Soil Conditions**
Unit Weight (Moist)	125 pcf
Friction Angle	32º
Cohesion	N/A
Unit Skin Friction	350 psf
Horizontal Subgrade Modulus	90 psi/in

Where load testing is performed, remove the test pile on completion. Backfill the test pits excavated for the pile extraction with the on-site native soil, placed in loose lifts not exceeding 12-inches in thickness, and compacted with at least four passes of an excavator mounted hoe-pack or walk-behind vibratory plate tamper of similar size as a Wacker-Neuson WP1550AW per lift on backfill installed. Slope the surface of the backfill to shed water away from the test pit location.

It is our opinion that the use of light-weight steel screw piles is a viable foundation option. A Solar FlexRack or Terratech Ground Screw (or other ground screw system) should be capable of displacing small cobbles and penetrating into the native soil. This system may disturb the soil slightly during installation, resulting in a lower lateral resistance.

If you elect to consider a ballasted foundation system, it could be developed several ways:

- Vertical posts could be connected horizontally at the base, forming a continuous beam. The base beam could be set at-grade, using concrete blocks, paving stones or another weight/ballast to hold down the array.

- Vertical posts could be connected horizontally at the base, forming a continuous beam. The base beam could be set below-grade, using poured concrete as weight/ballast to hold down the array.

- Large concrete pads (mat foundations) could be cast supporting two or more vertical posts, using the mass of the concrete pad to hold down the array.

Excavations for the ballasted foundations should extend deep enough to address frost impacts on the foundations. One approach would be to remove the overburden soil down to the selected design frost-free depth but no less than 30 inches. A non-frost susceptible N.Y.S.D.O.T. subbase material could be placed as backfill under the foundations to raise grade to the bottom of the new foundation/concrete pad. Another approach would be to install a 2-inch thick layer of Type VII rigid XPS insulation board under/around the foundations.

We recommend using an allowable bearing pressure of 3,000 psf on undisturbed native soil or the new structurally compact fill material (see Paragraph 3. above for compaction requirements). This value is based on a factor of safety of 3.0. The pressures are both in bearing and overturning loads when designing the spread footings. The footings should be at least 24-inches square (minimum to develop the allowable bearing pressure).

Due to the cobble soil and weathered bedrock conditions, it is our opinion that light-weight helical piles are not a viable foundation option. The helical piles would prove difficult to install in the cobble soil and weathered bedrock conditions expected and penetration depths would be limited.

7. Based on FHWA pile design criteria, it is our opinion that the soils do not have the potential to develop a corrosive environment and that no corrosion porection measures are recommended.

8. Construct the transformer pad and other support equipment on mat foundations. We recommend placing at least 12-inches of granular material under the mat slabs. N.Y.S.D.O.T. Items 304.12 (crusher-run stone) or 304.14 (crushed Item No. 4 gravel) meets this criterion. Rework and re-compact the underlying native soil to structural fill standards outlined in Paragraph No. 3 above prior to installing

the stone base course. Design the mat foundations based on an uncorrected Modulus of Subgrade Reaction, K_{vi}, of 175 psi/in at the bottom of slab/top of stone; the structural engineer should adjust this subgrade value for the size of the mat.

Frost may heave the pad, potentially separating pipe conduit at joints. To protect the pad, we suggest 1.) undercutting the pad to the design frost depth and backfilling with a non-frost susceptible material such as crusher-run stone or crushed Item No. 4 gravel or 2.) installing a high density insulation board under the pad. Under the insulation approach, extend the board horizontally a distance equivalent to the selected frost depth but no less than 30 inches in each direction beyond the edge of the pad. Cover the board with a minimum of six inches of soil. If insulation board is used, we suggest using a 2-inch thick, Type IV, V, VI or VII XPS board.

9. The NYS Building Code identifies various seismic design criteria for this project. Due to the firm to dense soil conditions encountered, we recommend using a Seismic Site Classification of C (Very Dense Soil). Using a Risk Category IV, ASCE 7-16 outlines the following seismic design parameters.

Table No. 7 – Seismic Design Parameters					
Spectral Response Acceleration		**Soil Factors**		**Design Spectral Response Acceleration**	
S_S	**S_1**	**S_{MS}**	**S_{M1}**	**SD_s**	**SD_1**
0.294g	0.061g	0.382g	0.092g	0.255g	0.061g

10. Perform the trenching and excavating work in accordance with NYS Building Code and OSHA safety standards. The contractor is responsible for determining what measures are required to meet these standards. Under no circumstances should slopes be steeper than 1 horizontal on 1 vertical. It is our opinion that the foundation and utility excavation work can be achieved with 'normal' excavating equipment capable of achieving the desired depths. Remove water that accumulates in open excavations using sumps and pumps.

11. Due to the on-site surface silty soil, we suggest budgeting for the following minimum pavement sections for your access roadway. Thicken this section as needed if used as the construction haul road for the material deliveries expected.

Table No. 8 – Pavement Section		
12.0"	No. 2 Crusher-Run Stone Subbase	NYSDOT Item 304.12
	Geogrid	Tensar T-130
	Subgrade	Approved Proof-Roll

Alternatively use N.Y.S.D.O.T. Item 304.14 and the section below if N.Y.S.D.O.T. Item 304.12 is not readily available.

Table No. 9 – Pavement Section		
15.0"	Crushed Item 4 Gravel Subbase	NYSDOT Item 304.14
	Geogrid	Tensar T-130
	Subgrade	Approved Proof-Roll

12. Establish site drainage to keep water from ponding. Ponding water will result in more significant frost heave developing during the winter months and may impact rack performance in areas nearby.

Attached is a Geoscience Business Council paper entitled *Important Information about This Geotechnical Engineering Report*. It describes how we intend this report to be used. We will continue to work cooperatively with you, other project principals, and interested parties to achieve win/win solutions that benefit all.

This concludes our geotechnical consultation services; call if you have questions or if you require additional design information. Forward a copy of the near final plans and specifications for our review and comment. It has been a pleasure to work with you on this project and we look forward to hearing from you again in the future.

Very truly yours,

FOUNDATION DESIGN, P.C.

Ryan J. Radford, P.E.
Secretary/Treasurer
Enc.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

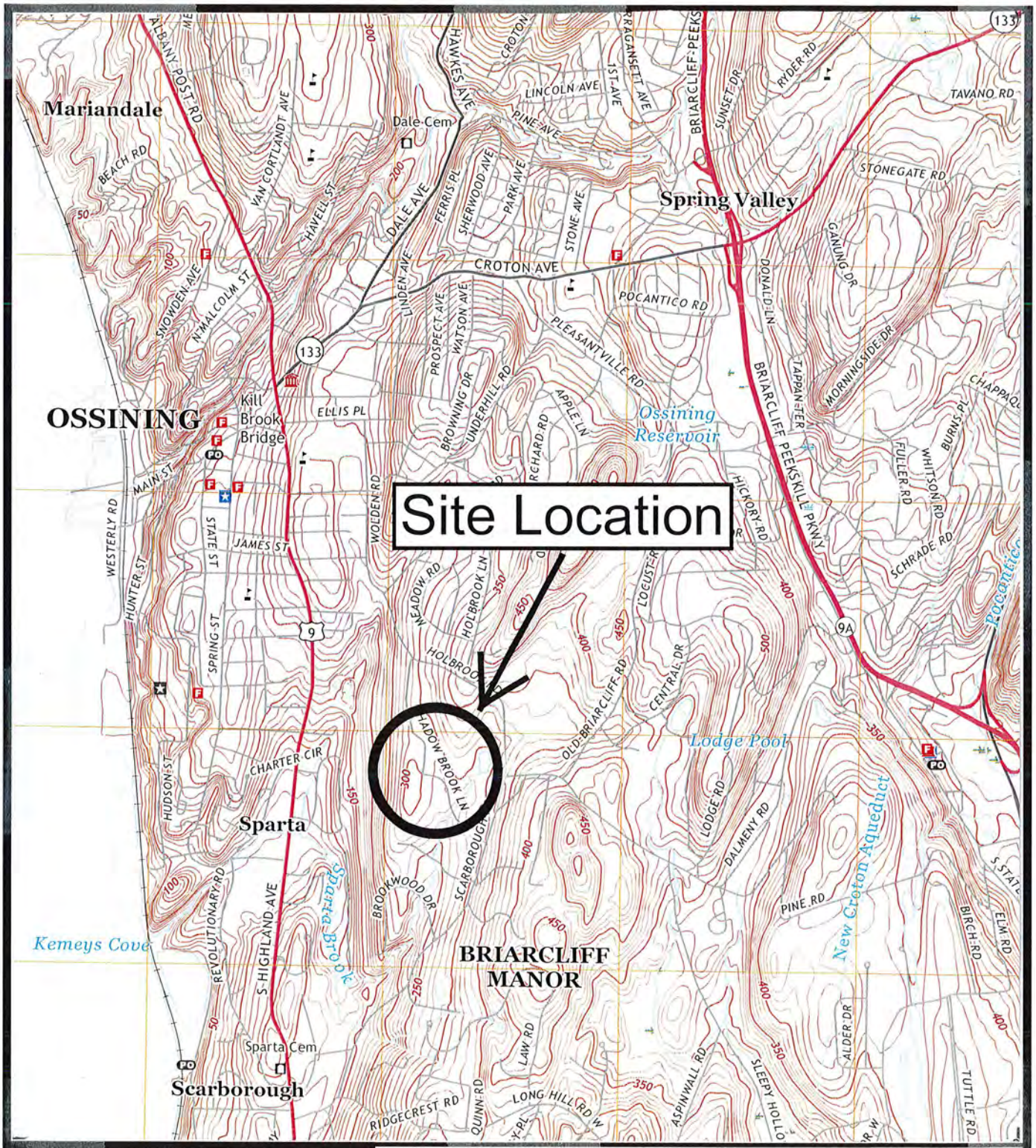
The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org



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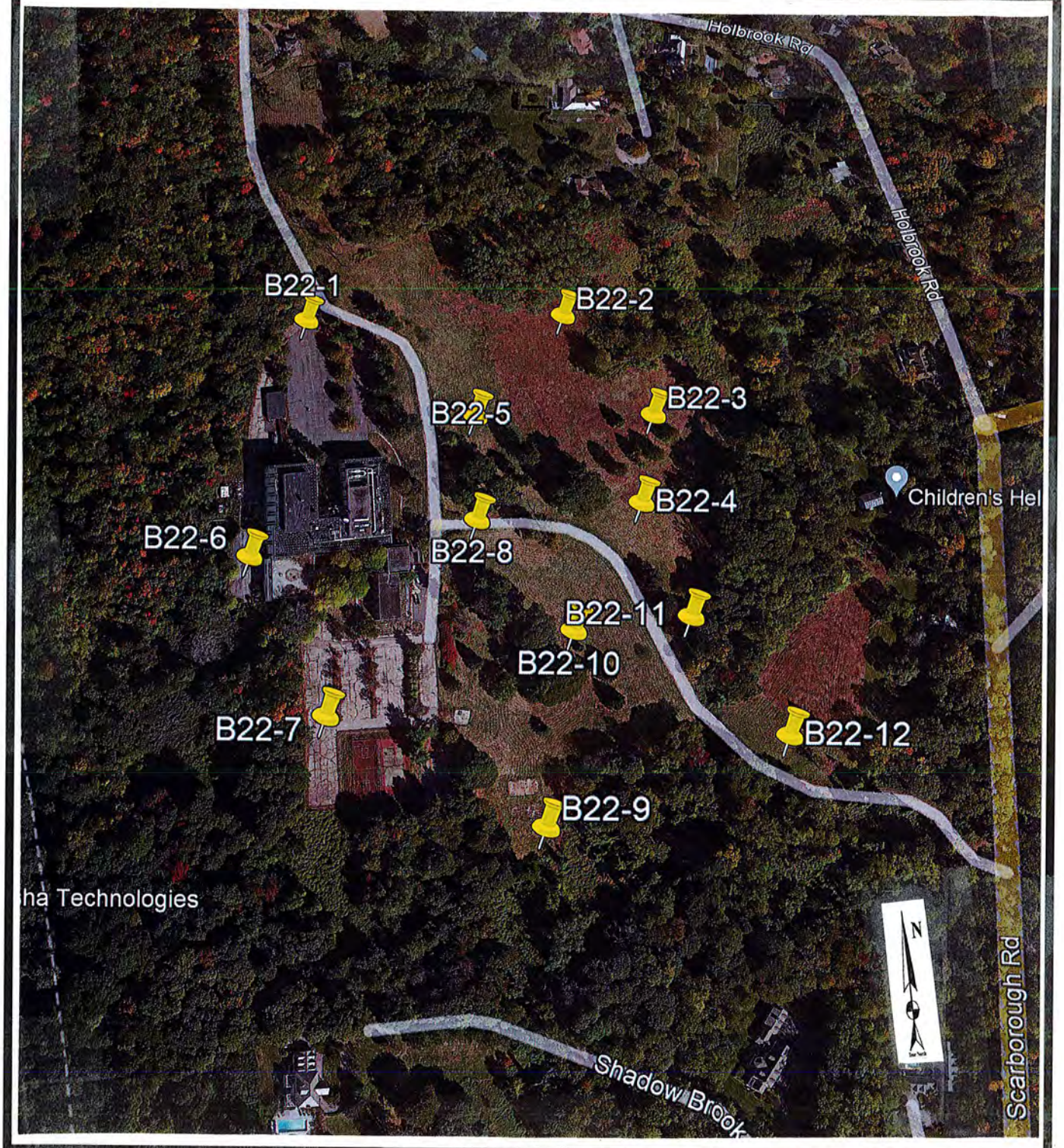
Briarcliff Solar Facility/Ridgewood Solar Facility

345 Scarborough Road, Briarcliff Manor, New York

General Location Plan

Adapted from: USGS Topographical Mapping
2019 Ossining NY Quadrangle

CHECKED BY:	JDN	Scale 1" = 2000'	DATE: 8/2/2022
DRAWN BY:	LSK		JOB NO.: 5184.0



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Briarcliff Solar Facility/Ridgewood Solar Facility

345 Scarborough Road, Briarcliff Manor, New York

Boring Location Plan

Adapted from: Foundation Design, P.C.
Google Image

CHECKED BY:	**RJR**	Not to Scale	**DATE: 7/15/22**
DRAWN BY:	**JCS**		**JOB NO.: 5184.0**

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

SOIL DESCRIPTIONS

COHESIVE SOIL

Very fine grained soils. Plastic soils that can be rolled into a thin thread if moist. Clays and silty clays show cohesion.

DESCRIPTION	SPT –BLOWS/FOOT
Very Soft	0-2
Soft	3-5
Medium	6-15
Stiff	16-25
Hard	26 or more

NON-COHESIVE SOIL

Soils composed of silt, sand and gravel, showing no cohesion or very slight cohesion

DESCRIPTION	SPT –BLOWS/FOOT
Loose	0-10
Firm	11-25
Compact	26-40
Dense	41-50
Very Dense	51 or more

SOIL COMPOSITION	DESCRIPTION	ESTIMATED PERCENTAGE
	and	50
	some	30-49
	little	11-29
	trace	0-10

MOISTURE CONDITIONS Dry, Damp, Moist, Wet, Saturated
Groundwater measured in the boring or test pit may not have reached equilibrium

SOIL STRATA:	TERM	DESCRIPTION
	layer	Soil deposit more than 6" thick
	seam	Soil deposit less than 6" thick
	parting	Soil deposit less than 1/8" thick
	varved	Horizontal uniform layers or seams of soil

GRAIN SIZE

MATERIAL		SIEVE SIZE
Boulder		Larger than 12 inches
Cobble		3 inches to 12 inches
Gravel	- coarse	1 inch to 3 inches
	- medium	3/8 inch to 1 inch
	- fine	No. 4 to 3/8 inch
Sand	- coarse	No. 10 to No. 4
	- medium	No. 40 to No. 10
	- fine	No. 200 to No. 40
Silt and Clay		Less than No. 200

Standard Penetration Test: The number of blows required to drive a split spoon sampler into the soil with a 140 pound hammer dropped 30 inches. The number of blows required for each 6-inches of penetration is recorded. The total number of blows required for the second and third 6-inches of penetration is termed the penetration resistance, or the "N" value.

Split Spoon Sampler: Typically a 2-foot long, 2-inch diameter hollow steel tube that breaks apart or splits in two down the tube length.

Refusal: Depth in the boring where more than 100 blows per 5-inches are needed to advance the sample spoon.

Core Recovery (%): The total length of rock core recovered divided by the total core run.

RQD (%): Rock Quality Designation – the total length of all the pieces of the rock core longer than 4-inches divided by the total length of the rock core run.

Foundation Design, P.C.

Boring Log

Project No.	5184.0	**Page** 1 **of** 1		**Test Boring No.**	B22-1
Project Name	YSG Briarcliff Solar / Ridgewood Solar, 345 Scarborough Road, Briarcliff Manor, New York				
Client	YSG Community Solar, 79 Madison Avenue, 2nd Floor, New York, New York 10016				
Elevation	290.0	**Weather**	P. Cldy 80s	**Engineer**	T. Beyer
Date Started	7/11/2022	**Completed**	7/11/2022	**Driller**	B. Fletcher
Drilling Company:	CME Associates			**Drilling Equipment:**	CME 550 K, ATV Rig

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
									ASPHALT 0'3¼"
									CRUSHED STONE subbase 0'8½"
	10	8							Firm brown moist SAND, little silt, trace gravel
			5	31	13	S-1	2'-4'	12"	
5	7	7							5'0"
			7	7	14	S-2	4'-6'	14"	Firm brown moist SILT, some sand, trace gravel, trace clay
	7	7							
			7	8	14	S-3	6'-8'	22"	
	3	8							
10			22	9	30	S-4	8'-10'	20"	S-4: Compact
	9	12							
15			14	21	26	S-5	13'-15'	24"	15'0"
									Boring Terminated at 15'0"
20									
25									
30									

Notes:
1. Dry upon completion.
2. Advanced hole using hollow stem augers.
3. Bore hole backfilled using auger spoils.
4. Boring Location: N 41.149430, E -73.854811

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

Boring Log

Project No.	5184.0	**Page** 1 **of** 1		**Test Boring No.**	B22-2
Project Name	YSG Briarcliff Solar / Ridgewood Solar, 345 Scarborough Road, Briarcliff Manor, New York				
Client	YSG Community Solar, 79 Madison Avenue, 2nd Floor, New York, New York 10016				
Elevation	296.0	**Weather**	P. Cldy 80s	**Engineer**	T. Beyer
Date Started	7/11/2022	**Completed**	7/11/2022	**Driller**	B. Fletcher
Drilling Company:	CME Associates			**Drilling Equipment:**	CME 550 K, ATV Rig

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
	2	3							TOPSOIL 0'6"
			3	4	6	S-1	0'-2'	15"	Loose brown moist SAND, some silt, trace gravel
	6	7							
			8	11	15	S-2	2'-4'	22"	S-2: Firm
5	7	11							
			16	19	27	S-3	4'-6'	24"	S-3: Compact
	14	12							
			12	12	24	S-4	6'-8'	8"	S-4: Firm, poor recovery
	5	7							
10			8	9	15	S-5	8'-10'	20"	S-5: Little gravel, trace clay
	5	6							
15			8	12	14	S-6	13'-15'	16"	S-6: Wet
									15'0"
									Boring Terminated at 15'0"
20									
25									
30									

Notes:
1. Water at 14'8" upon completion.
2. Advanced hole using hollow stem augers.
3. Bore hole backfilled using auger spoils.
4. Boring Location: N 41.149081, E -73.852927

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

Boring Log

Project No.	5184.0	**Page** 1 **of** 1		**Test Boring No.**	B22-3
Project Name	YSG Briarcliff Solar / Ridgewood Solar, 345 Scarborough Road, Briarcliff Manor, New York				
Client	YSG Community Solar, 79 Madison Avenue, 2nd Floor, New York, New York 10016				
Elevation	318.0	**Weather**	P. Cldy 80s	**Engineer**	T. Beyer
Date Started	7/12/2022	**Completed**	7/12/2022	**Driller**	B. Fletcher
Drilling Company:	CME Associates			**Drilling Equipment:**	CME 550 K, ATV Rig

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
	2	3							TOPSOIL 0'6"
			4	4	7	S-1	0'-2'	22"	Loose tan-brown moist SAND, some silt, trace gravel 2'0"
	8	9							Firm brown moist SILT, some sand,
			10	10	19	S-2	2'-4'	21"	trace gravel, trace clay
5	7	10							
			9	13	19	S-3	4'-6'	20"	
	12	13							
			10	11	23	S-4	6'-8'	24"	
	6	6							
10			5	14	11	S-5	8'-10'	19"	
	29	34							
15			22	25	56	S-6	13'-15'	17"	S-6: Very Dense 15'0"
									Boring Terminated at 15'0"
20									
25									
30									

Notes:
1. Dry upon completion.
2. Advanced hole using hollow stem augers.
3. Bore hole backfilled using auger spoils.
4. Boring Location: N 41.14829, E -73.85184

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

Boring Log

Project No.	5184.0	**Page** 1 **of** 1		**Test Boring No.**	B22-4
Project Name	YSG Briarcliff Solar / Ridgewood Solar, 345 Scarborough Road, Briarcliff Manor, New York				
Client	YSG Community Solar, 79 Madison Avenue, 2nd Floor, New York, New York 10016				
Elevation	296.0	**Weather**	P. Cldy 80s	**Engineer**	T. Beyer
Date Started	7/12/2022	**Completed**	7/12/2022	**Driller**	B. Fletcher
Drilling Company:	CME Associates			**Drilling Equipment:**	CME 550 K, ATV Rig

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
	3	5							TOPSOIL 0'7"
			8	8	13	S-1	0'-2'	20"	Firm brown moist SAND, some to little silt, trace gravel
	9	12							
			14	15	26	S-2	2'-4'	24"	S-2: Compact
5	7	8							S-3: Firm
			8	13	16	S-3	4'-6'	24"	
	34	50/5			50/5	S-4	6'-6'11"	10"	S-4: Very Dense Cobbles noted during augering
	50/5				50/5	S-5	8'-8'5"	5"	S-5: Very Dense
10									
	27	31							
15			39	40	70	S-6	13'-15'	17"	S-6: Very Dense, gray-brown 15'0"
									Boring Terminated at 15'0"
20									
25									
30									

Notes:
1. Dry upon completion.
2. Advanced hole using hollow stem augers.
3. Bore hole backfilled using auger spoils.
4. Boring Location: N 41.14784, E -73.85247

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

Boring Log

Project No.	5184.0	**Page** 1 **of** 1		**Test Boring No.**	B22-5
Project Name	YSG Briarcliff Solar / Ridgewood Solar, 345 Scarborough Road, Briarcliff Manor, New York				
Client	YSG Community Solar, 79 Madison Avenue, 2nd Floor, New York, New York 10016				
Elevation	294.0	**Weather**	P. Cldy 80s	**Engineer**	T. Beyer
Date Started	7/11/2022	**Completed**	7/11/2022	**Driller**	B. Fletcher
Drilling Company:	CME Associates			**Drilling Equipment:**	CME 550 K, ATV Rig

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
	2	3							TOPSOIL 0'7"
			3	3	6	S-1	0'-2'	14"	Loose brown moist SAND, some to little silt, trace gravel
	4	8							
			13	66	21	S-2	2'-4'	18"	
5	33	22							S-2: Firm
			14	1	36	S-3	4'-6'	15"	S-3: Compact, little gravel
	9	8							
			11	21	19	S-4	6'-8'	20"	S-4: Firm, trace clay 8'0"
	10	11							Firm brown wet SAND, little silt, little gravel
10			10	8	21	S-5	8'-10'	18"	
	3	5							
15			5	8	10	S-6	13'-15'	19"	S-6: Loose, gray-brown 15'0"
									Boring Terminated at 15'0"
20									
25									
30									

Notes:
1. Dry upon completion.
2. Advanced hole using hollow stem augers.
3. Bore hole backfilled using auger spoils.
4. Boring Location: N 41.148538, E -73.853748

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

Boring Log

Project No.	5184.0	**Page** 1 **of** 1		**Test Boring No.**	B22-6
Project Name	YSG Briarcliff Solar / Ridgewood Solar, 345 Scarborough Road, Briarcliff Manor, New York				
Client	YSG Community Solar, 79 Madison Avenue, 2nd Floor, New York, New York 10016				
Elevation	271.0	**Weather**	P. Cldy 80s	**Engineer**	T. Beyer
Date Started	7/11/2022	**Completed**	7/11/2022	**Driller**	B. Fletcher
Drilling Company:	CME Associates			**Drilling Equipment:**	CME 550 K, ATV Rig

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
									ASPHALT 0'8"
									Dirty CRUSHED STONE subbase 0'11"
	18	18							FILL: Firm brown-black moist SAND, little silt, trace gravel, trace asphalt millings
			7	7	25	S-1	2'-4'	18"	
5	11	7							4'10"
			4	6	11	S-2	4'-6'	20"	Firm brown moist SAND, some to little silt, trace gravel
	4	4							
			9	12	13	S-3	6'-8'	16"	
	2	2							
10			3	2	5	S-4	8'-10'	14"	S-4: Loose
	6	11							
15			13	13	24	S-5	13'-15'	19"	S-5: Firm
									15'0"
									Boring Terminated at 15'0"
20									
25									
30									

Notes:
1. Dry upon completion.
2. Advanced hole using hollow stem augers.
3. Bore hole backfilled using auger spoils.
4. Boring Location: N 41.14797, E -73.85557

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

Boring Log

Project No.	5184.0	**Page** 1 **of** 1		**Test Boring No.**	B22-7
Project Name	YSG Briarcliff Solar / Ridgewood Solar, 345 Scarborough Road, Briarcliff Manor, New York				
Client	YSG Community Solar, 79 Madison Avenue, 2nd Floor, New York, New York 10016				
Elevation	295.0	**Weather**	P. Cldy 80s	**Engineer**	T. Beyer
Date Started	7/12/2022	**Completed**	7/12/2022	**Driller**	B. Fletcher
Drilling Company:	CME Associates			**Drilling Equipment:**	CME 550 K, ATV Rig

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
	-	6							ASPHALT 0'3"
			8	7	14	S-1	0'6"-2'	18"	SAND and GRAVEL subbase 1'4"
	4	6							FILL: Firm gray-brown moist SAND, some silt, little to trace gravel
			5	4	11	S-2	2'-4'	20"	
5	4	11							
			6	5	17	S-3	4'-6'	18"	
	4	5							
			4	4	9	S-4	6'-8'	21"	S-4: Loose, wet, trace wood 8'0"
	5	9							Firm gray moist SAND, some to little silt, little to trace gravel
10			13	15	22	S-5	8'-10'	24"	
									Cobbles noted during augering
	50/1"				50/1"	S-6	13'-13'1"	1"	S-6: Very Dense, poor recovery 13'1"
15									Boring Terminated at 13'1" spoon refusal
20									
25									
30									Notes: 1. Dry upon completion. 2. Advanced hole using hollow stem augers. 3. Bore hole backfilled using auger spoils. 4. Boring Location: N 41.146921, E -73.855274

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

Boring Log

Project No.	5184.0	**Page** 1 **of** 1		**Test Boring No.**	B22-8
Project Name	YSG Briarcliff Solar / Ridgewood Solar, 345 Scarborough Road, Briarcliff Manor, New York				
Client	YSG Community Solar, 79 Madison Avenue, 2nd Floor, New York, New York 10016				
Elevation	295.0	**Weather**	P. Cldy 80s	**Engineer**	T. Beyer
Date Started	7/12/2022	**Completed**	7/12/2022	**Driller**	B. Fletcher
Drilling Company:	CME Associates			**Drilling Equipment:**	CME 550 K, ATV Rig

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
	2	4							TOPSOIL 0'8"
			4	7	8	S-1	0'-2'	16"	Loose brown moist SAND, some silt, trace gravel, trace clay
	5	10							
			11	12	21	S-2	2'-4'	17"	S-2: Firm
5	5	8							4'0"
			12	16	20	S-3	4'-6'	24"	Firm brown-gray moist SILT, some sand, trace gravel, trace clay
	19	19							
			21	24	40	S-4	6'-8'	24"	S-4: Compact
	14	16							8'4"
10			18	20	34	S-5	8'-10'	17"	Compact brown moist SAND, some silt, little gravel
	50/3"				50/3"	S-6	13'-13'3"	3"	S-6: Very Dense, poor recovery 13'3"
15									Boring Terminated at 13'3" spoon refusal
20									
25									
30									

Notes:
1. Dry upon completion.
2. Advanced hole using hollow stem augers.
3. Bore hole backfilled using auger spoils.
4. Boring Location: N 41.14790, E -73.85390

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

Boring Log

Project No.	5184.0	**Page** 1 **of** 1		**Test Boring No.**	B22-9
Project Name	YSG Briarcliff Solar / Ridgewood Solar, 345 Scarborough Road, Briarcliff Manor, New York				
Client	YSG Community Solar, 79 Madison Avenue, 2nd Floor, New York, New York 10016				
Elevation	276.0	**Weather**	P. Cldy 80s	**Engineer**	T. Beyer
Date Started	7/12/2022	**Completed**	7/12/2022	**Driller**	B. Fletcher
Drilling Company:	CME Associates			**Drilling Equipment:**	CME 550 K, ATV Rig

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
	3	4							TOPSOIL 0'6"
			4	4	8	S-1	0'-2'	18"	Loose tan-brown moist SAND, some silt, trace gravel 2'0"
	15	30							Very Dense gray-brown-white moist SAND, some to little gravel, little silt (weathered metamorphic rock with mica and quartz)
			50/4		80/10"	S-2	2'-3'4"	12"	
5	34	50/4"			50/4"	S-3	4'-4'10"	8"	
	48	50/3"			50/3"	S-4	6'-6'9"	9"	
	49	50/2"			50/2"	S-5	8'-8'8"	7"	
10									
	50/5"				50/5"	S-6	13'-13'5"	5"	13'3"
15									Boring Terminated at 13'3" spoon refusal
20									
25									
30									

Notes:
1. Dry upon completion.
2. Advanced hole using hollow stem augers.
3. Bore hole backfilled using auger spoils.
4. Boring Location: N 41.14608, E -73.85399

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

Boring Log

Project No.	5184.0	**Page** 1 **of** 1		**Test Boring No.**	B22-10
Project Name	YSG Briarcliff Solar / Ridgewood Solar, 345 Scarborough Road, Briarcliff Manor, New York				
Client	YSG Community Solar, 79 Madison Avenue, 2nd Floor, New York, New York 10016				
Elevation	282.0	**Weather**	P. Cldy 80s	**Engineer**	T. Beyer
Date Started	7/12/2022	**Completed**	7/12/2022	**Driller**	B. Fletcher
Drilling Company:	CME Associates			**Drilling Equipment:**	CME 550 K, ATV Rig

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
	2	3							TOPSOIL 0'10"
			3	2	6	S-1	0'-2'	19"	Loose brown moist SILT, some sand, trace gravel
	2	1							
			2	3	3	S-2	2'-4'	18"	4'0"
5	8	12							Compact gray-brown moist SAND, some to little gravel, little silt
			16	23	28	S-3	4'-6'	17"	
	18	64							S-4: Very Dense
			50/1"		114/7"	S-4	6'-7'1"	12"	
	50/4"				50/4"	S-5	8'-8'4"	4"	
10									
	50/2"				50/2"	S-6	13'-13'2"	2"	13'2"
15									Boring Terminated at 13'2" spoon refusal
20									
25									
30									

Notes:
1. Dry upon completion.
2. Advanced hole using hollow stem augers.
3. Bore hole backfilled using auger spoils.
4. Boring Location: N 41.147125, E -73.853422

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

Boring Log

Project No.	5184.0	**Page** 1 **of** 1		**Test Boring No.**	B22-11
Project Name	YSG Briarcliff Solar / Ridgewood Solar, 345 Scarborough Road, Briarcliff Manor, New York				
Client	YSG Community Solar, 79 Madison Avenue, 2nd Floor, New York, New York 10016				
Elevation	282.0	**Weather**	P. Cldy 80s	**Engineer**	T. Beyer
Date Started	7/12/2022	**Completed**	7/12/2022	**Driller**	B. Fletcher
Drilling Company:	CME Associates			**Drilling Equipment:**	CME 550 K, ATV Rig

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
	3	5							TOPSOIL 0'8"
			4	9	9	S-1	0'-2'	19"	Loose brown moist SAND, some silt, trace gravel
	16	16							S-2: Compact
			22	32	38	S-2	2'-4'	18"	Cobbles noted during augering 4'0"
5	17	30							Very Dense gray-brown moist SAND, little gravel, little to trace silt (highly weathered metamorphic rock with quartz and mica)
			49	48	79	S-3	4'-6'	19"	
	50/4"				50/4"	S-4	6'-6'4"	4"	
	27	50/5"			50/5"	S-5	8'-8'5"	4"	
10									
	50/3"				50/3"	S-6	13'-13'3"	3"	13'3"
15									Boring Terminated at 13'3" spoon refusal
20									
25									
30									Notes: 1. Dry upon completion. 2. Advanced hole using hollow stem augers. 3. Bore hole backfilled using auger spoils. 4. Boring Location: N 41.147010, E -73.852146

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

Boring Log

Project No.	5184.0	**Page** 1 **of** 1		**Test Boring No.**	B22-12
Project Name	YSG Briarcliff Solar / Ridgewood Solar, 345 Scarborough Road, Briarcliff Manor, New York				
Client	YSG Community Solar, 79 Madison Avenue, 2nd Floor, New York, New York 10016				
Elevation	284.0	**Weather**	P. Cldy 80s	**Engineer**	T. Beyer
Date Started	7/12/2022	**Completed**	7/12/2022	**Driller**	B. Fletcher
Drilling Company:	CME Associates			**Drilling Equipment:**	CME 550 K, ATV Rig

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
	2	4							TOPSOIL 0'7"
			5	6	9	S-1	0'-2'	19"	Loose tan-brown moist SAND, some silt, little to trace gravel, trace organics (roots) 2'0"
	4	5							Firm tan-brown moist SAND, some silt,
			20	35	25	S-2	2'-4'	16"	trace gravel
5	12	14							
			14	21	28	S-3	4'-6'	22"	S-3: Compact
	12	12							
			16	15	28	S-4	6'-8'	17"	
	10	13							
10			13	23	26	S-5	8'-10'	19"	
	27	38							
15			38	34	76	S-6	13'-15'	18"	S-6: Very Dense
									15'0"
									Boring Terminated at 15'0"
20									
25									
30									

Notes:
1. Dry upon completion.
2. Advanced hole using hollow stem augers.
3. Bore hole backfilled using auger spoils.
4. Boring Location: N 41.146251, E -73.852167

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

July 19, 2022

YSG Community Solar
79 Madison Avenue, 2nd Floor
New York, New York 10016

Attention: Mr. David Magid

Reference: Briarcliff Solar Facility
345 Scarborough Rd, Briarcliff Manor, New York
Laboratory Test Results, 5184.0

Dear Mr. Magid:

Foundation Design, P.C. is pleased to present the following results of the laboratory testing performed on the referenced project. The testing was performed in accordance with the following ASTM test methods:

6	Sieve Analysis	ASTM D-1140
6	Moisture Content Test	ASTM D-2216
5	4 Point Resistivity Test	ASTM G-57
5	pH Test	ASTM D-4972
5	Laboratory Soil Box Resistivity Test	ASTM G187-12a

We appreciate the opportunity to provide these testing services and look forward to hearing from you again in the near future.

Very truly yours,

FOUNDATION DESIGN, P.C.

Ryan Radford, P.E.
Secretary/Treasurer

Foundation Design, P.C.

Briarcliff Solar Facility
345 Scarborough Rd, Briarcliff Manor
5184.0

07/19/2022

Moisture Content Test Report
(ASTM D-2216)

Moisture Content Test Results			
Boring Number	B22-1	B22-2	B22-3
Sample Number	S-1	S-2	S-2
Depth	2'-4'	2'-4'	2'-4'
Moisture Content (%)	**8.6**	**10.6**	**18.2**

Moisture Content Test Results			
Boring Number	B22-9	B22-10	B22-12
Sample Number	S-2	S-4	S-2
Depth	2'-3'2"	6'-7'1"	2'-4'
Moisture Content (%)	**4.5**	**5.7**	**7.1**

Foundation Design, P.C.

Briarcliff Solar Facility
345 Scarborough Rd, Briarcliff Manor
5184.0

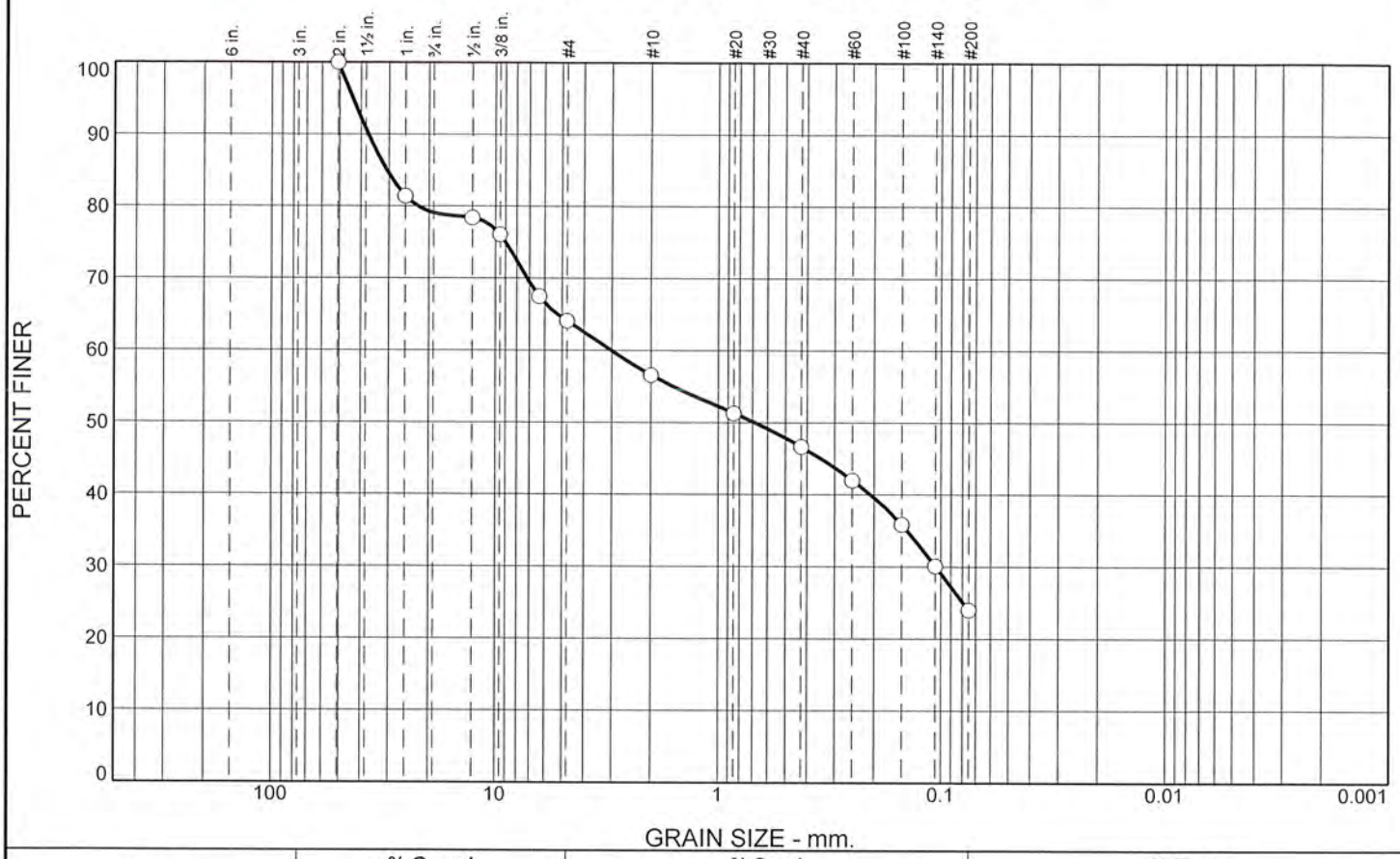
07/19/2022

pH and Resistivity Test Report
(ASTM D-4972 and ASTM G-57)

pH and Laboratory Resistivity Test Results			
Soil Boring Number	**B22-3**	**B22-5**	**B22-10**
Sample Number	Bulk	Bulk	Bulk
Depth	0'-6"	0'-6"	0'-6"
pH	5.7	5.6	5.9
Resistivity(Ω·cm) Natural Moisture	69,000	70,000	51,000
Resistivity(Ω·cm) Saturated Moisture	27,000	19,000	25,000
Natural Moisture Content (%)	16.7	14.2	13.5
Saturated Moisture Content (%)	56.2	47.1	35.9

pH and Laboratory Resistivity Test Results		
Soil Boring Number	**B22-11**	**B22-12**
Sample Number	Bulk	Bulk
Depth	0'-6"	0'-6"
pH	5.4	6.3
Resistivity(Ω·cm) Natural Moisture	19,000	69,000
Resistivity(Ω·cm) Saturated Moisture	43,000	38,000
Natural Moisture Content (%)	11.0	16.2
Saturated Moisture Content (%)	36.9	35.3

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	21	15	7	10	23	24	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100		
1"	81		
1/2"	78		
3/8"	76		
1/4"	67		
#4	64		
#10	57		
#20	51		
#40	47		
#60	42		
#100	36		
#140	30		
#200	24		

* (no specification provided)

Material Description

SM: Brown silty sand with gravel per ASTM D-2488

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 37.0690 D_{85}= 30.6750 D_{60}= 3.0366
D_{50}= 0.6895 D_{30}= 0.1055 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Test performed on 240.41 grams of oven dried sample

Source of Sample: B22-1 **Depth:** 2'-4'
Sample Number: S-1

Date: 07/19/2022

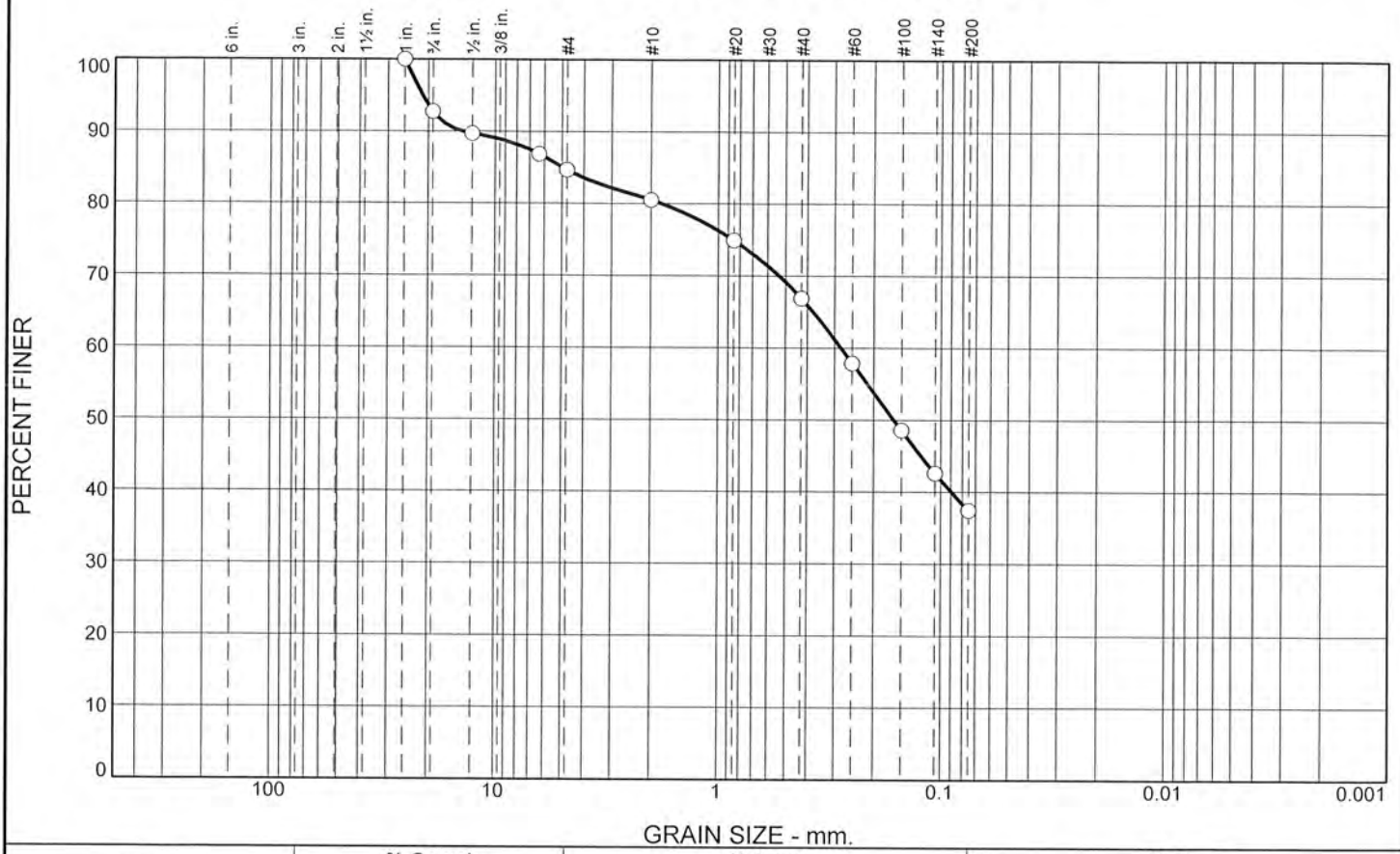
Foundation Design, P.C.

Client: YSG Community Solar, 79 Madison Ave, 2nd Fl, NY, NY
Project: Briarcliff Solar Facility, 345 Scarborough Rd, Briarcliff Manor, NY

Project No: 5184.0 **Figure**

Tested By: TJB **Checked By:** RR

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	7	8	5	13	30	37	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100		
3/4"	93		
1/2"	90		
1/4"	87		
#4	85		
#10	80		
#20	75		
#40	67		
#60	58		
#100	49		
#140	43		
#200	37		

* (no specification provided)

Material Description

SM: Brown silty sand with gravel per ASTM D-2488

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 14.2183 D_{85}= 4.9876 D_{60}= 0.2816
D_{50}= 0.1625 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Test performed on 263.39 grams of oven dried sample

Source of Sample: B22-2 **Depth:** 2'-4'
Sample Number: S-2

Date: 07/19/2022

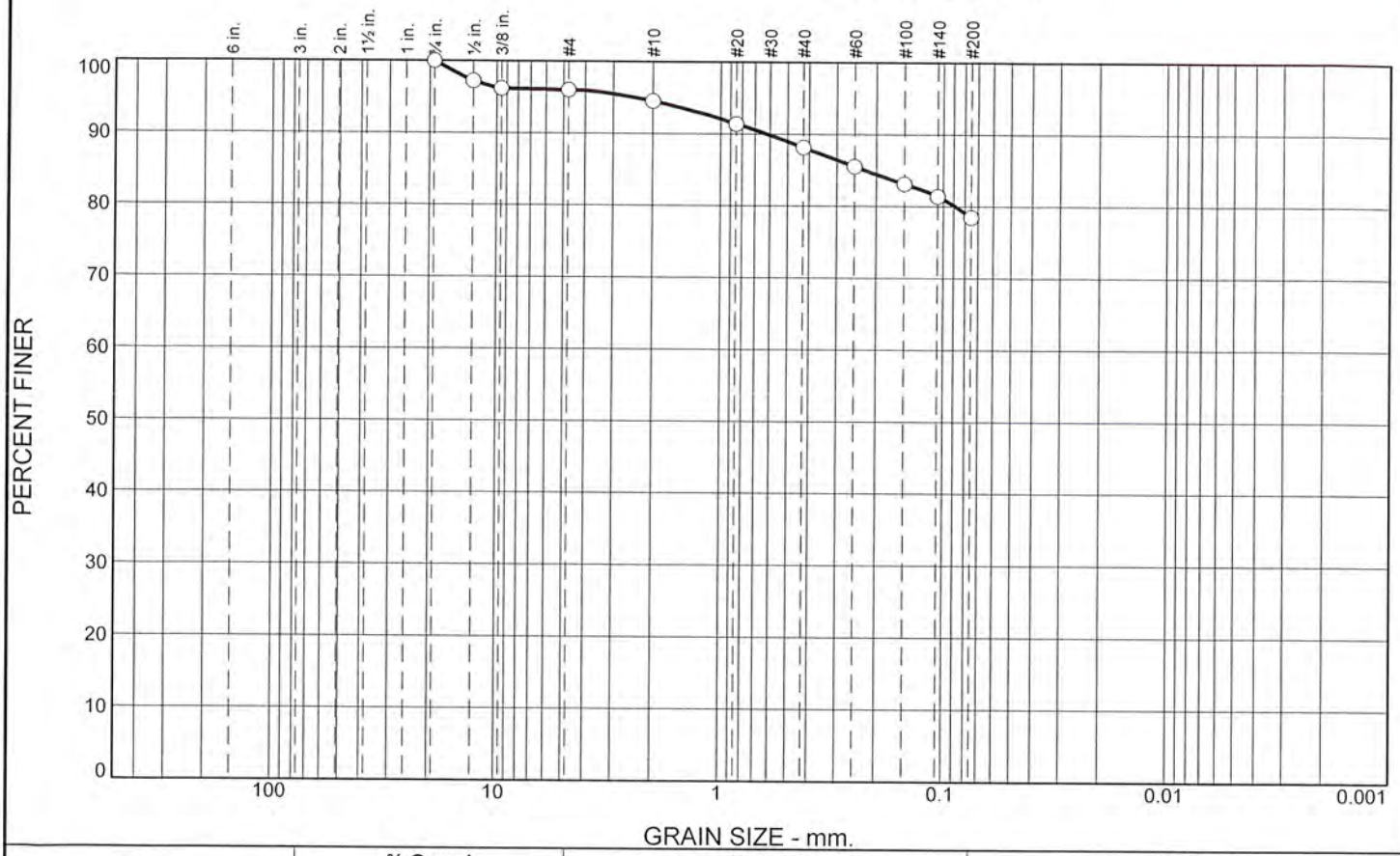
Foundation Design, P.C.

Client: YSG Community Solar, 79 Madison Ave, 2nd Fl, NY, NY
Project: Briarcliff Solar Facility, 345 Scarborough Rd, Briarcliff Manor, NY

Project No: 5184.0 **Figure**

Tested By: TJB **Checked By:** RR

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	4	2	6	10	78	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4	100		
1/2	97		
3/8	96		
#4	96		
#10	94		
#20	91		
#40	88		
#60	85		
#100	83		
#140	81		
#200	78		

* (no specification provided)

Material Description

ML: Tan-yellow silt with sand per ASTM D-2488

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.6272 D_{85}= 0.2260 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Test performed on 207.01 grams of oven dried sample

Source of Sample: B22-3 **Depth:** 2'-4'
Sample Number: S-2

Date: 07/19/2022

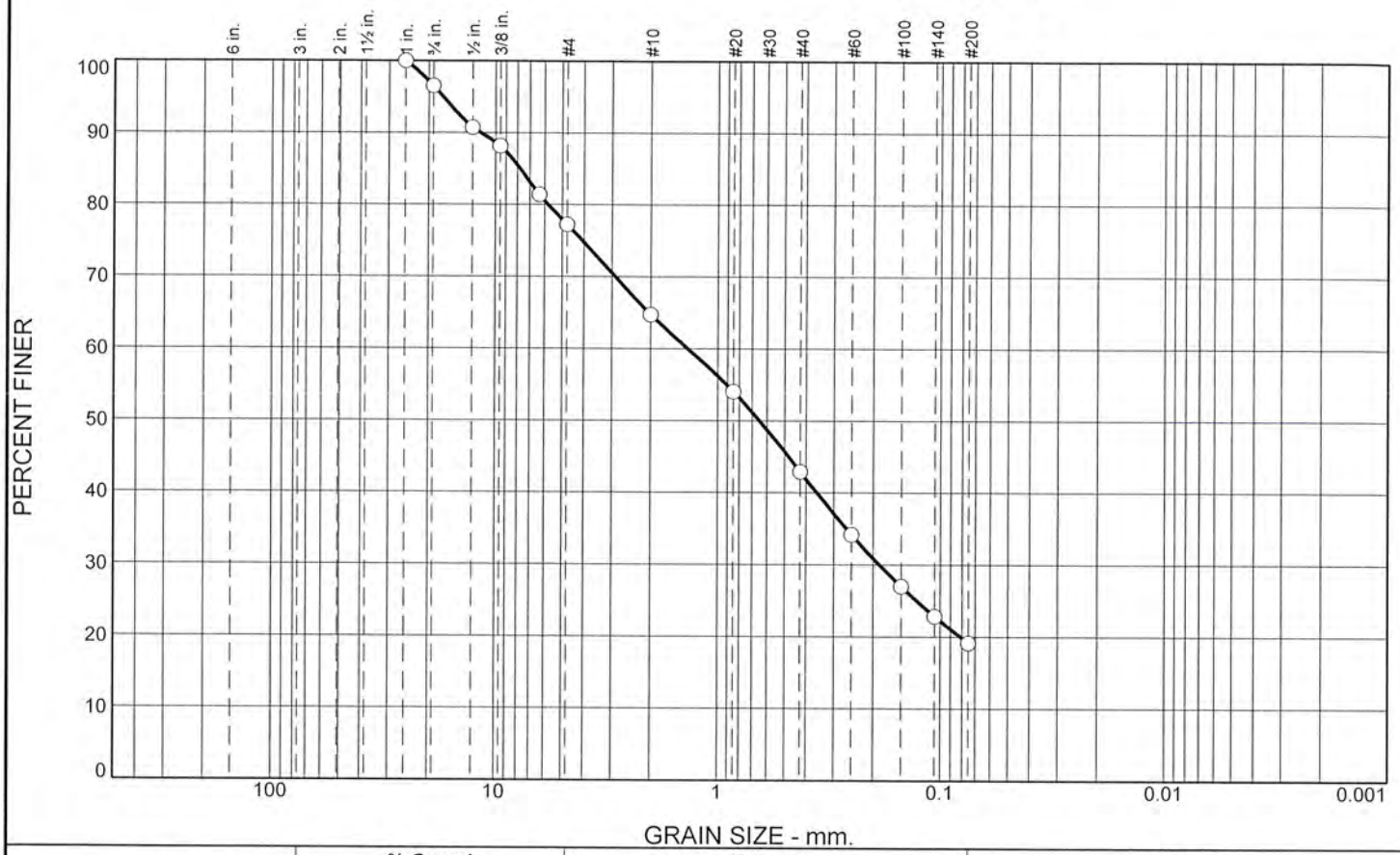
Foundation Design, P.C.

Client: YSG Community Solar, 79 Madison Ave, 2nd Fl, NY, NY
Project: Briarcliff Solar Facility, 345 Scarborough Rd, Briarcliff Manor, NY

Project No: 5184.0 **Figure**

Tested By: TJB **Checked By:** RR

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	4	19	12	22	24	19	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100		
3/4"	96		
1/2"	91		
3/8"	88		
1/4"	81		
#4	77		
#10	65		
#20	54		
#40	43		
#60	34		
#100	27		
#140	23		
#200	19		

* (no specification provided)

Material Description

SM: Gray silty sand with gravel per ASTM D-2488

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 11.7605 D_{85}= 7.7711 D_{60}= 1.3669
D_{50}= 0.6508 D_{30}= 0.1880 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Test performed on 258.81 grams of oven dried sample

Source of Sample: B22-9 **Depth:** 2'-3'4"
Sample Number: S-2

Date: 07/19/2022

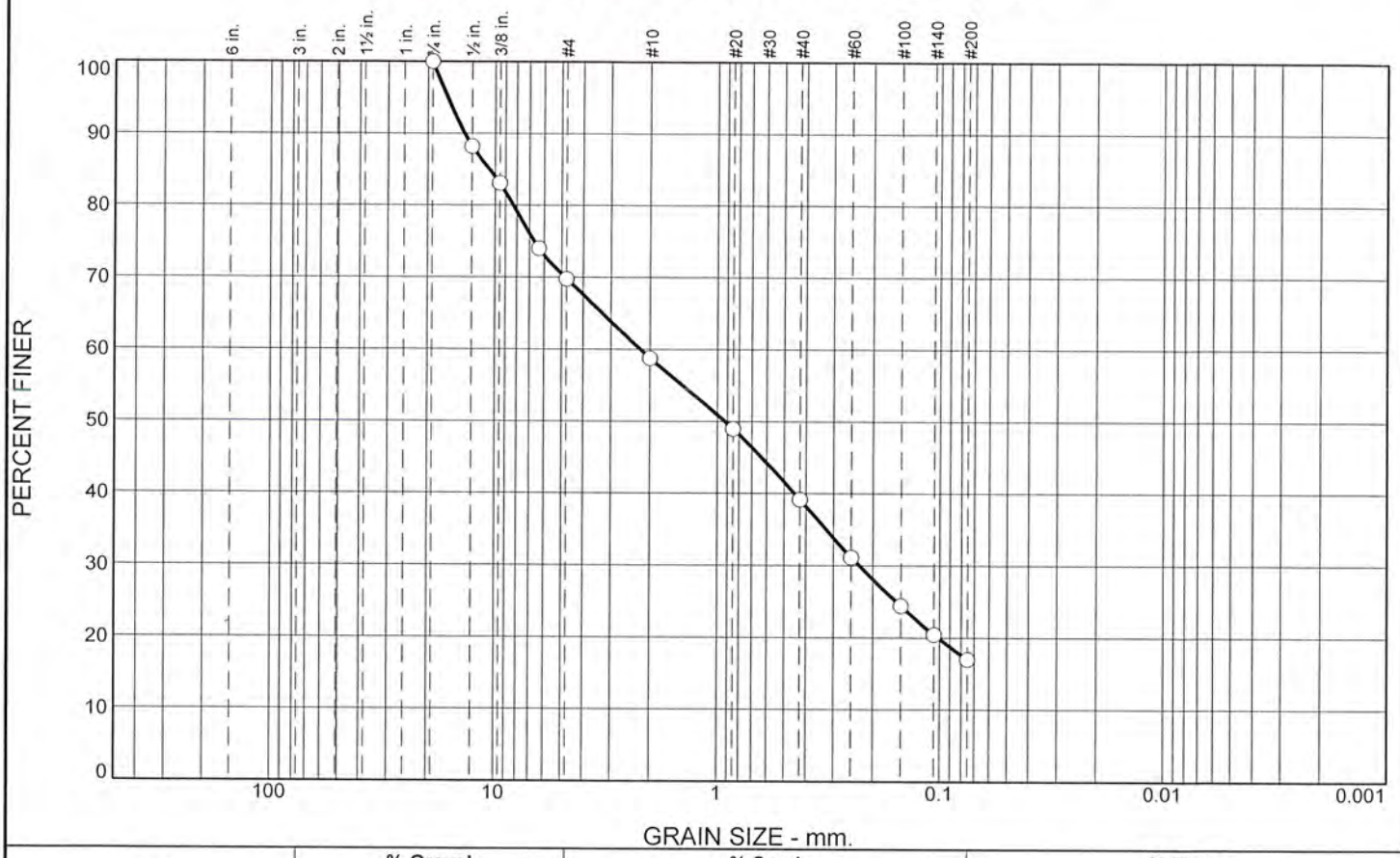
Foundation Design, P.C.

Client: YSG Community Solar, 79 Madison Ave, 2nd Fl, NY, NY
Project: Briarcliff Solar Facility, 345 Scarborough Rd, Briarcliff Manor, NY

Project No: 5184.0 **Figure**

Tested By: TJB **Checked By:** RR

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	30	11	20	22	17	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4	100		
1/2	88		
3/8	83		
1/4	74		
#4	70		
#10	59		
#20	49		
#40	39		
#60	31		
#100	24		
#140	20		
#200	17		

* (no specification provided)

Material Description

SM: Brown-gray silty sand with gravel per ASTM D-2488

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 13.7322 D_{85}= 10.6434 D_{60}= 2.2187
D_{50}= 0.9268 D_{30}= 0.2306 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Test performed on 252.62 grams of oven dried sample

Source of Sample: B22-10 **Depth:** 6'-7'1"
Sample Number: S-4

Date: 07/19/2022

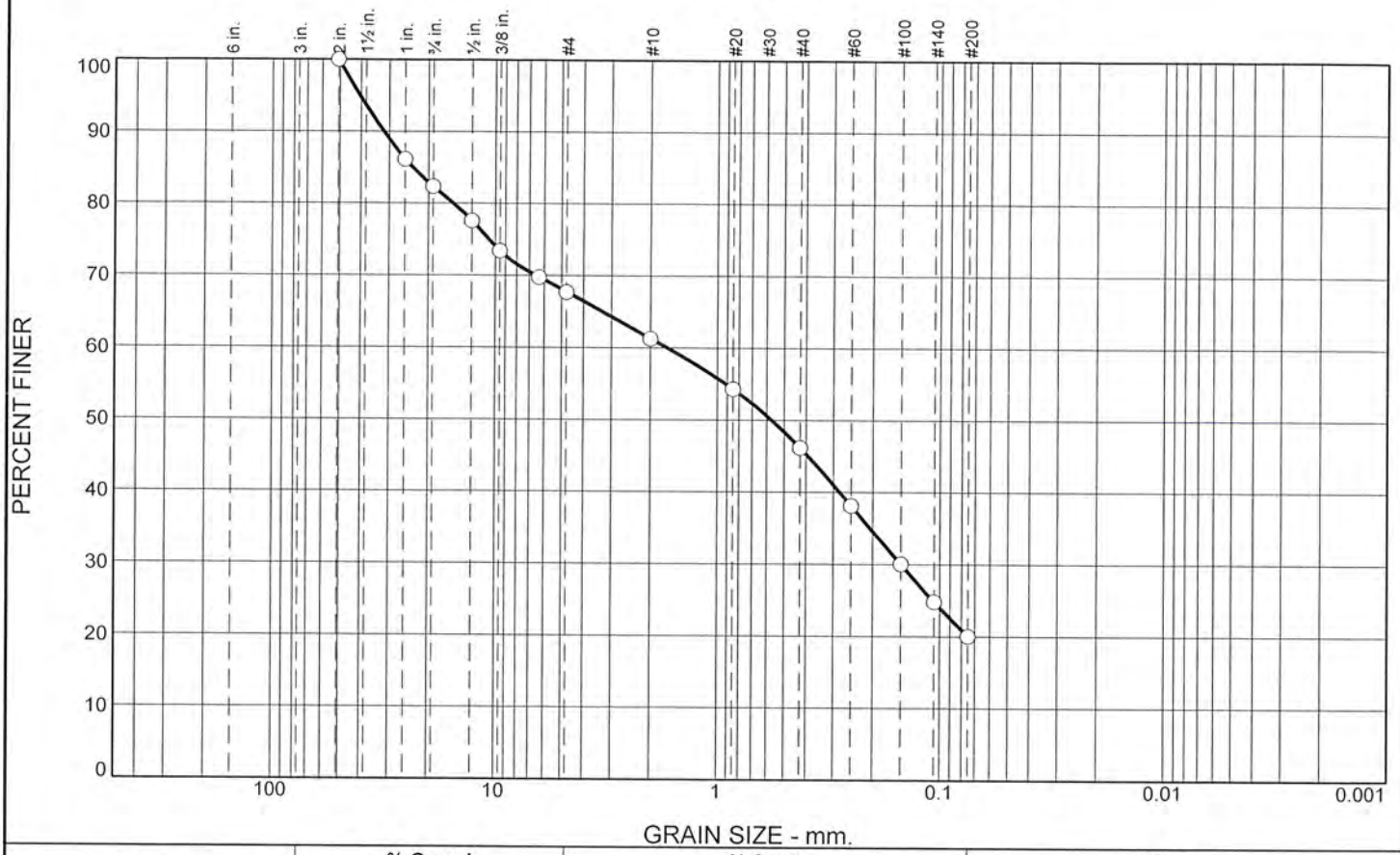
Foundation Design, P.C.

Client: YSG Community Solar, 79 Madison Ave, 2nd Fl, NY, NY
Project: Briarcliff Solar Facility, 345 Scarborough Rd, Briarcliff Manor, NY

Project No: 5184.0 **Figure**

Tested By: TJB **Checked By:** RR

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	18	14	7	15	26	20	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100		
1"	86		
3/4"	82		
1/2"	78		
3/8"	73		
1/4"	70		
#4	68		
#10	61		
#20	54		
#40	46		
#60	38		
#100	30		
#140	25		
#200	20		

* (no specification provided)

Material Description

SM: Brown silty sand with gravel per ASTM D-2488

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 31.7953 D_{85}= 23.5617 D_{60}= 1.6940
D_{50}= 0.5716 D_{30}= 0.1496 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Test performed on 255.92 grams of oven dried sample

Source of Sample: B22-12 **Depth:** 2'-4'
Sample Number: S-2

Date: 07/19/2022

Foundation Design, P.C.

Client: YSG Community Solar, 79 Madison Ave, 2nd Fl, NY, NY
Project: Briarcliff Solar Facility, 345 Scarborough Rd, Briarcliff Manor, NY

Project No: 5184.0 **Figure**

Tested By: TJB **Checked By:** RR

Foundation Design, P.C.

4-Point Soil Resistivity Test (Wenner Method)

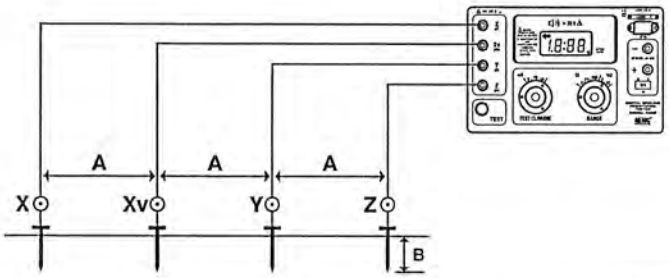
Test Date 7/12/2022

Test Location Briarcliff Solar Boring No. B22-3

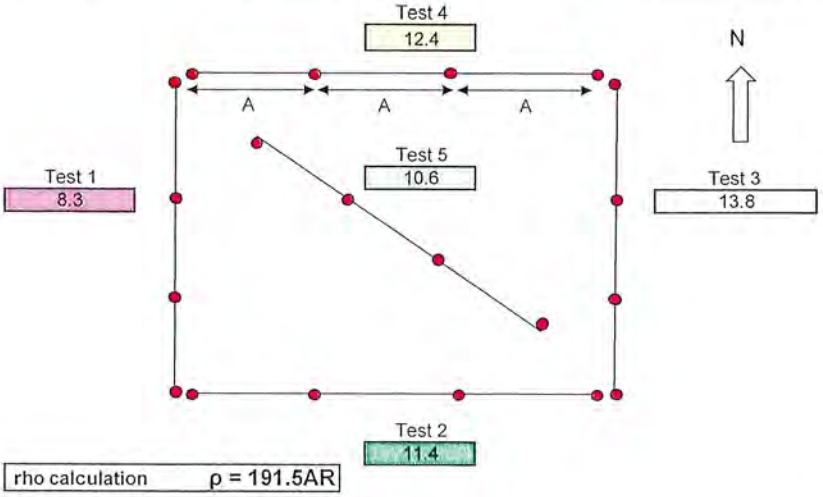
Address 345 Scarborough Road, Briarcliff Manor, NY

Model AEMC 4620 Operator Name: Tom Beyer

Test Conditions				
Soil Condition:	[x] Moist	[ ] Dry	Temperature 80 °F	
Soil Type:	[ ] Clay	[ ] Limestone	[x] Sand & Gravel	
	[ ] Granite	[ ] Shale	[ ] Sandstone	
	[x] Loam	[ ] Slate	[ ] Other	



Electrode Spacing (A) 10 ft Electrode depth (B) 0.5 ft



rho calculation ρ = 191.5AR

Test	Test Reading R	Soil Resistivity ρ
1	12.4	23746
2	13.8	26427
3	11.4	21831
4	8.3	15894.5
5	10.6	20299

Effective soil resistivity: **21639.50** Ω - cm

AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

Foundation Design, P.C.

4-Point Soil Resistivity Test (Wenner Method)

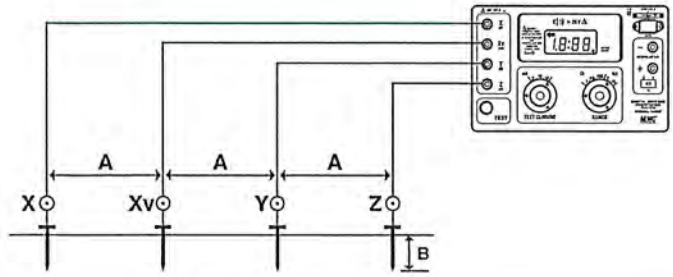
Test Date 7/12/2022

Test Location Briarcliff Solar Boring No. B22-5

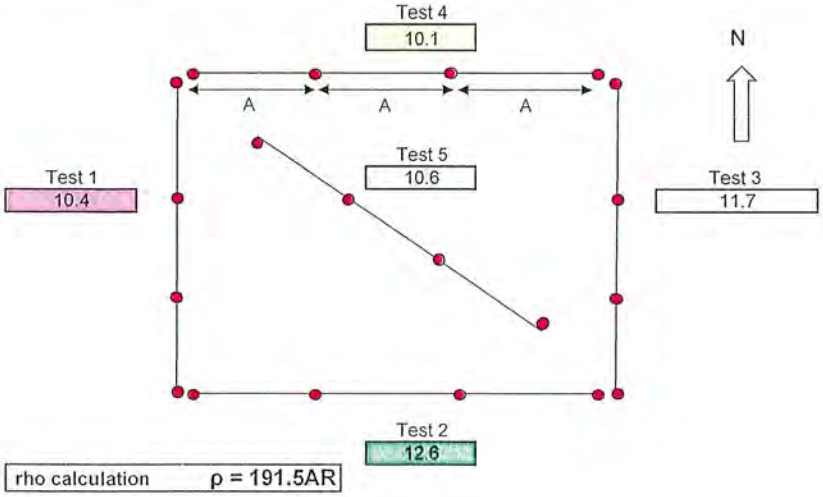
Address 345 Scarborough Road, Briarcliff Manor, NY

Model AEMC 4620 Operator Name: Tom Beyer

Test Conditions				
Soil Condition:	[x] Moist	[ ] Dry	Temperature 80 °F	
Soil Type:	[ ] Clay	[ ] Limestone	[x] Sand & Gravel	
	[ ] Granite	[ ] Shale	[ ] Sandstone	
	[x] Loam	[ ] Slate	[ ] Other	



Electrode Spacing (A) 10 ft Electrode depth (B) 0.5 ft



rho calculation ρ = 191.5AR

Test	Test Reading R	Soil Resistivity ρ
1	10.1	19341.5
2	11.7	22405.5
3	12.6	24129
4	10.4	19916
5	10.6	20299

Effective soil resistivity: **21218.20** Ω - cm

AEMC® INSTRUMENTS CHAUVIN ARNOUX GROUP

Foundation Design, P.C.

4-Point Soil Resistivity Test (Wenner Method)

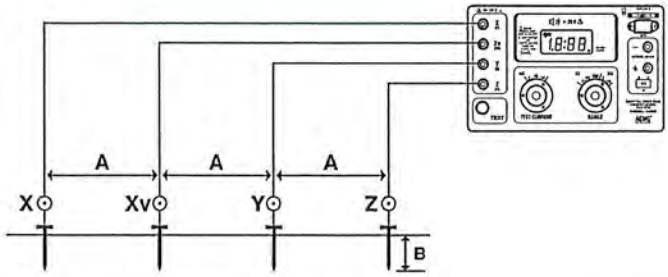
Test Date 7/12/2022

Test Location Briarcliff Solar Boring No. B22-10

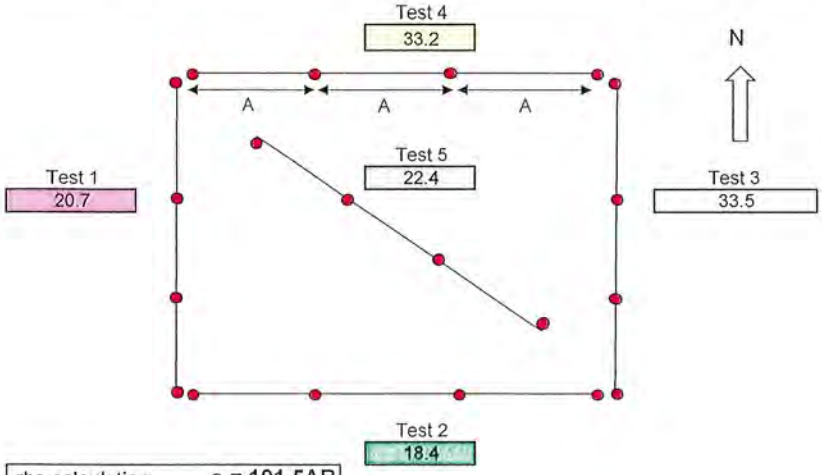
Address 345 Scarborough Road, Briarcliff Manor, NY

Model AEMC 4620 Operator Name: Tom Beyer

Test Conditions					
Soil Condition:	[x] Moist	[ ] Dry		Temperature	80 °F
Soil Type:	[ ] Clay	[ ] Limestone	[x] Sand & Gravel		
	[ ] Granite	[ ] Shale	[ ] Sandstone		
	[x] Loam	[ ] Slate	[ ] Other		



Electrode Spacing (A) 10 ft Electrode depth (B) 0.5 ft



rho calculation ρ = 191.5AR

Test	Test Reading R	Soil Resistivity ρ
1	33.2	63578
2	33.5	64152.5
3	18.4	35236
4	20.7	39640.5
5	22.4	42896

Effective soil resistivity: **49100.60** Ω - cm

AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

Foundation Design, P.C.

4-Point Soil Resistivity Test (Wenner Method)

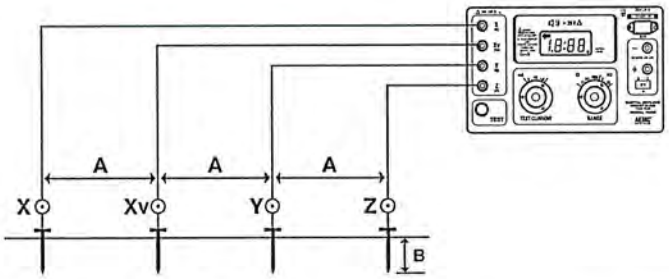
Test Date 7/12/2022

Test Location Briarcliff Solar Boring No. B22-11

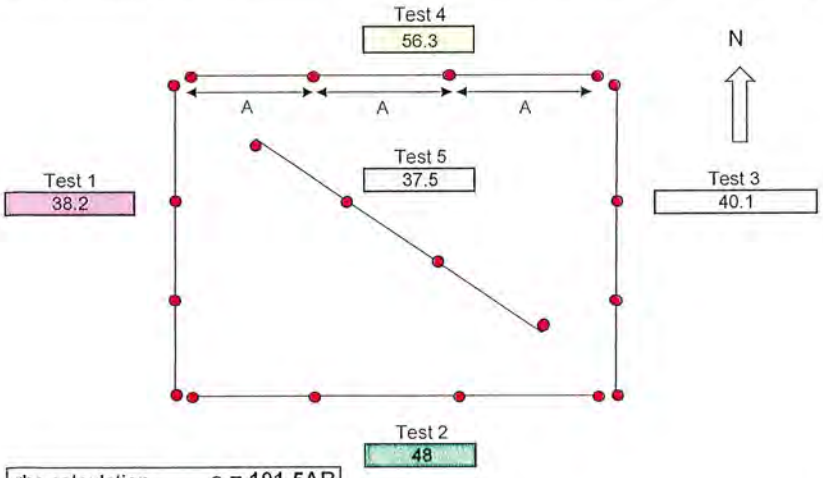
Address 345 Scarborough Road, Briarcliff Manor, NY

Model AEMC 4620 Operator Name: Tom Beyer

Test Conditions					
Soil Condition:	[x] Moist	[ ] Dry	Temperature 80 °F		
Soil Type:	[ ] Clay	[ ] Limestone	[x] Sand & Gravel		
	[ ] Granite	[ ] Shale	[ ] Sandstone		
	[x] Loam	[ ] Slate	[ ] Other		



Electrode Spacing (A) 10 ft Electrode depth (B) 0.5 ft



rho calculation ρ = 191.5AR

Test	Test Reading R	Soil Resistivity ρ
1	56.3	107815
2	40.1	76791.5
3	48	91920
4	38.2	73153
5	37.5	71812.5

Effective soil resistivity: **84298.30** Ω - cm

AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

Foundation Design, P.C.

4-Point Soil Resistivity Test (Wenner Method)

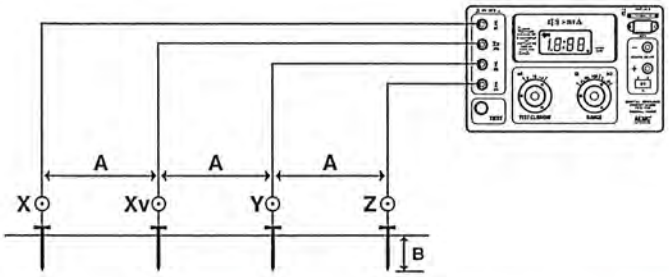
Test Date 7/12/2022

Test Location Briarcliff Solar Boring No. B22-12

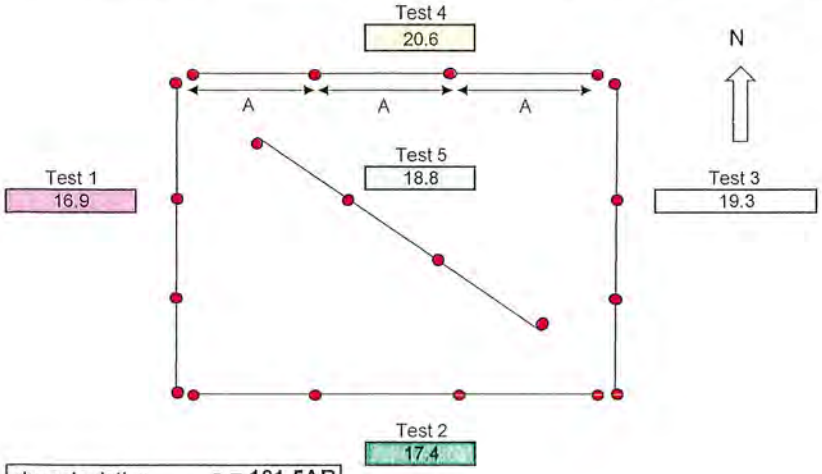
Address 345 Scarborough Road, Briarcliff Manor, NY

Model AEMC 4620 Operator Name: Tom Beyer

Test Conditions				
Soil Condition:	[x] Moist	[ ] Dry	Temperature 80 °F	
Soil Type:	[ ] Clay	[ ] Limestone	[x] Sand & Gravel	
	[ ] Granite	[ ] Shale	[ ] Sandstone	
	[x] Loam	[ ] Slate	[ ] Other	



Electrode Spacing (A) 10 ft Electrode depth (B) 0.5 ft



rho calculation ρ = 191.5AR

Test	Test Reading R	Soil Resistivity ρ
1	20.6	39449
2	19.3	36959.5
3	17.4	33321
4	16.9	32363.5
5	18.8	36002

Effective soil resistivity: **35619.00** Ω - cm

AEMC® INSTRUMENTS
CHAUVIN ARNOUX GROUP

Project:	Briarcliff Solar
Client:	Foundation Design, P.C.
Project No.:	22-011
Sample No.:	Briarcliff Solar
Lab ID#:	22-398

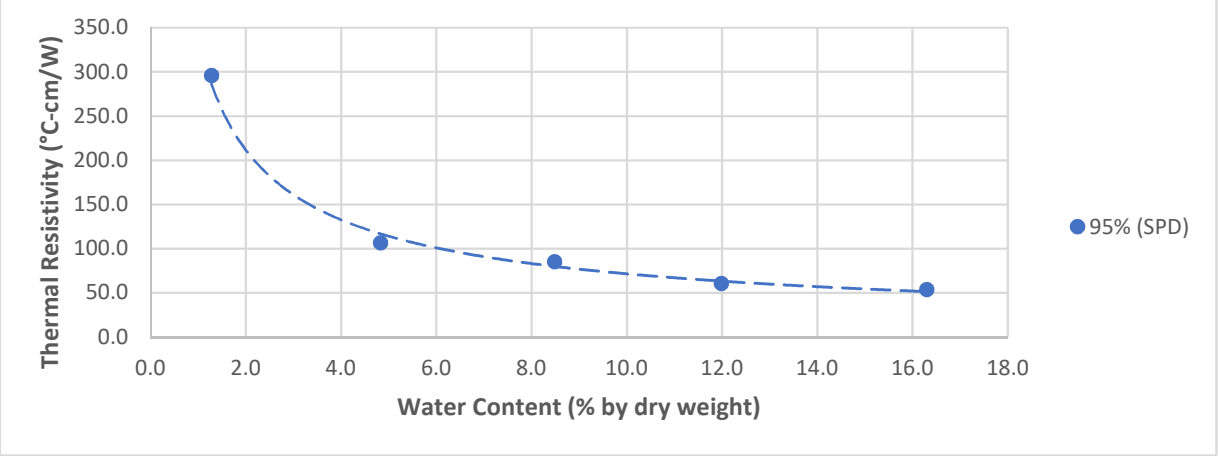
Standard Proctor and Compaction Data
ASTM D698

Standard Proctor Results:	Maximum Dry Density, pcf:	116.3
	Optimum Water Content,%:	13.3
Site Condition @ time of sampling:	As Received Water Content,%:	16.0
Compaction Data for Thermal Resistivity Testing:	Remolded Density, pcf (95% SPD)[2]:	110.5

Thermal Dryout Testing Summary and Curve
ASTM D5334

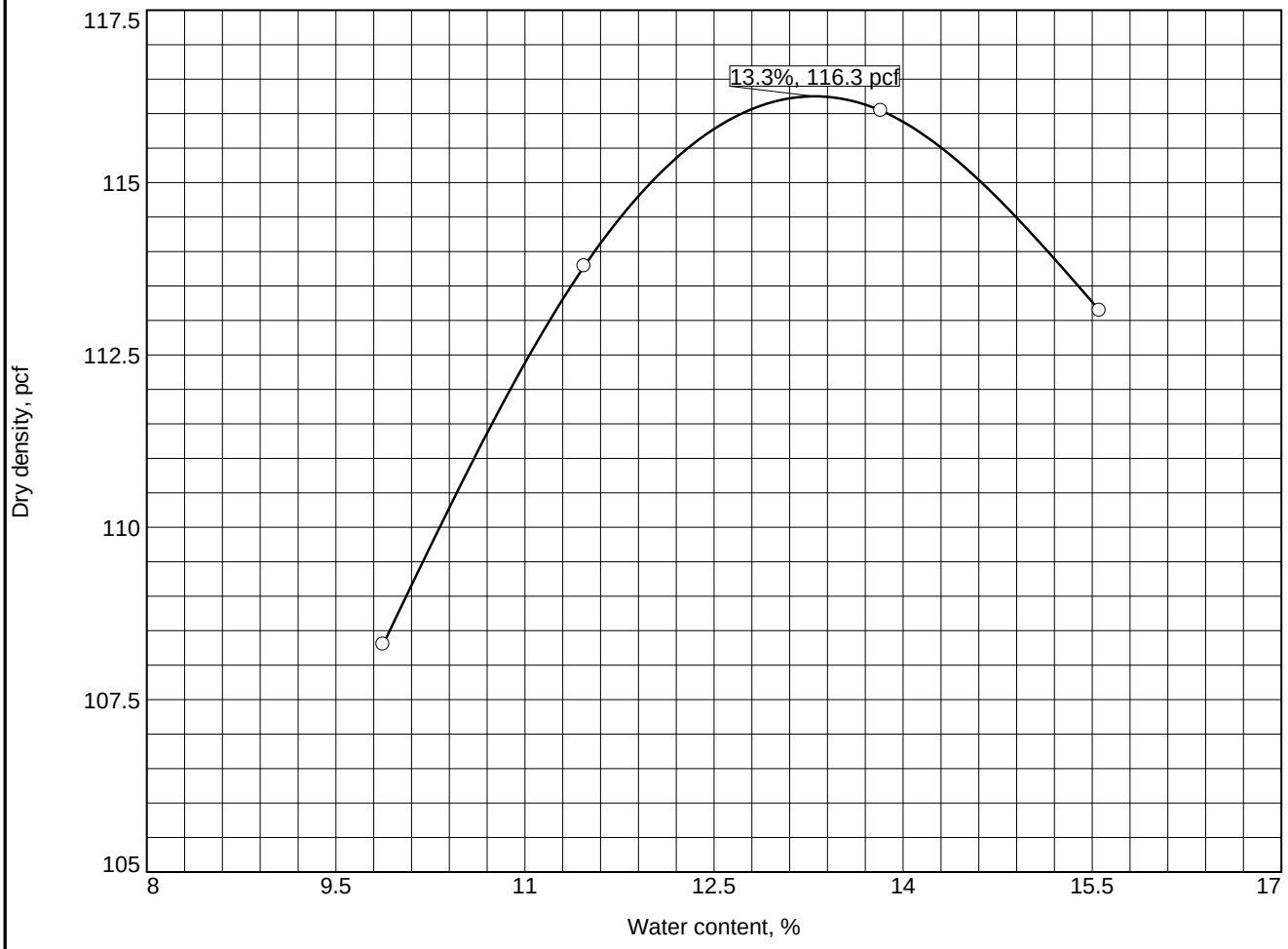
Water Content (%)	Thermal Readings	
	Resistivity (°C-cm/W)	Conductivity (W/m-K)
95% Standard Proctor Density (SPD)		
1.3	295.9	0.34
4.8	106.5	0.96
8.5	85.0	1.19
12.0	60.6	1.67
16.3	53.5	1.87

Notes: 1.Tempos Thermal Properties Analyzer, TEM00000654 with TR-3 Needle
2. Based on uncorrected maximum dry density



3rd Rock, LLC
580 Olean Road
East Aurora, NY 14052
(716)655.4933
www.soilstesting.com

COMPACTION TEST REPORT



Test specification: ASTM D 698-07 Method B Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
			16.0				3.3	

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 116.3 pcf Optimum moisture = 13.3 %	ID#22-398

Project No. 22-011 **Client:** Foundation Design

Project:

○**Source of Sample:** Briarcliff Solar **Sample Number:** Briarcliff Solar

3rd Rock, LLC

East Aurora, NY

Remarks:

Figure

Tested By: EBS 7/22/22 **Checked By:** JMA

July 21, 2022 Service Request No:R2206462

Mr. Jeff Netzband
Foundation Design
46A Sager Drive
Rochester, NY 14607

Laboratory Results for: Briarcliff Solar

Dear Mr.Netzband,

Enclosed are the results of the sample(s) submitted to our laboratory July 14, 2022
For your reference, these analyses have been assigned our service request number **R2206462.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Nicole Mansen
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Foundation Design
Project: Briarcliff Solar
Sample Matrix: Soil

Service Request: R2206462
Date Received: 07/14/2022

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Five soil samples were received for analysis at ALS Environmental on 07/14/2022. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by _____ Date 07/21/2022

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: B22-3/S-1/0-2			Lab ID: R2206462-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Total Solids	83.7				Percent	ALS SOP

CLIENT ID: B22-5/S-1/0-2			Lab ID: R2206462-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Total Solids	85.0				Percent	ALS SOP

CLIENT ID: B22-10/S-2/2-4			Lab ID: R2206462-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Total Solids	84.8				Percent	ALS SOP

CLIENT ID: B22-11/S-1/0-2			Lab ID: R2206462-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Total Solids	88.8				Percent	ALS SOP

CLIENT ID: B22-12/S-1/0-2			Lab ID: R2206462-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Total Solids	87.2				Percent	ALS SOP

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Foundation Design **Service Request:**R2206462
Project: Briarcliff Solar/5184.0

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R2206462-001	B22-3/S-1/0-2	7/12/2022	
R2206462-002	B22-5/S-1/0-2	7/12/2022	
R2206462-003	B22-10/S-2/2-4	7/12/2022	
R2206462-004	B22-11/S-1/0-2	7/12/2022	
R2206462-005	B22-12/S-1/0-2	7/12/2022	

ALS Environmental

1565 Jefferson Rd, Bldg 300 Ste 360, Rochester, NY 14623 585-288-5380 FAX 585-288-8475

SR# _____

PAGE _____ OF _____

Project Name: Briarcliff Solar Project Number: 5184.0

Project Manager: Ryan Radford Company: Foundation Design PC

Company/Address: 46A Sager Dr. Phone: 585-458-0824

City, State, Zip: Rochester, NY 14607 Email: RRadford@FoundationDesignPC.com

Sampler's Signature: [signature]

Sample I.D.	Date	Time	LAB ID	Matrix	Number of Containers	Analysis Requested: Sulfate Ion	Analysis Requested: Chloride Ion	REMARKS
B22-3/S-1/0'-2'	7-12-22			Soil	1	X	X	
B22-5/S-1/0'-2'	7-12-22			Soil	1	X	X	
B22-10/S-2/2'-4'	7-12-22			Soil	1	X	X	
B22-11/S-1/0'-2'	7-12-22			Soil	1	X	X	
B22-12/S-1/0'-2'	7-12-22			Soil	1	X	X	

TURNAROUND REQUIREMENTS

_____ 24 hr* _____ 48 hr* _____ 3BD* _____ 5 BD*

* RUSH TAT additional surcharges apply

_____ Standard (10 BD)

Requested Report Date: _____

REPORT REQUIREMENTS

_____ I. Routine Report: Results and Method Blank (Surrogate, as required)

_____ II. Results w/ QC (Dup., MS, MSD as req)

_____ III. Results (with QC and Calibration Summaries)

_____ IV. ASP-B Package

_____ EDD?

EDD Type:

Comments/Special Instructions:

Invoice Information

P.O. # _____

Bill to: _____

RELINQUISHED BY:

Signature: Zach Wood

Printed Name: Zach Wood

Firm: Foundation Design

Date/Time: 7/14/22 13:42

RECEIVED BY:

Signature: [signature]

Printed Name: Matthew Kelley

Firm: ALS

Date/Time: 7/14/22 13:42

RELINQUISHED BY:

Signature: _____

Printed Name: _____

Firm: _____

Date/Time: _____

RECEIVED BY:

Signature: _____

Printed Name: _____

Firm: _____

R2206462 5

Foundation Design

Briarcliff Solar

R2206462 5
Foundation Design
Briarcliff Solar

Cooler Receipt and Preservat

Project/Client Foundation ~~Design~~ Design Folder Number

Cooler received on 7/14/22 by: MM

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y N	5a	**Perchlorate** samples have required headspace?	Y N NA
2	**Custody papers** properly completed (ink, signed)?	Y N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y N NA
3	Did all bottles arrive in good **condition** (unbroken)?	Y N	6	Where did the bottles originate? ALS/ROC	CLIENT
4	Circle: **Wet Ice. Dry Ice Gel packs** present?	Y N	7	Soil VOA received as: Bulk Encore 5035set	NA

8. Temperature Readings Date: 7/14/22 Time: 1410 ID: IR#7 IR#11 From: Temp Blank Sample Bottle

Observed Temp (°C)	22.6						
Within 0-6°C?	Y N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: No Ice Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: Standing Approval Client aware at drop-off Client notified by:

All samples held in storage location: R002 by MM on 7/14/22 at 14:05
5035 samples placed in storage location: by on at within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 07/15/22 Time: 1440 by: AL

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? YES NO
10. Did all bottle labels and tags agree with custody papers? YES NO
11. Were correct containers used for the tests indicated? YES NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO N/A
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated N/A

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-			**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).			
		HCl	**	**						

Bottle lot numbers: client jar
Explain all Discrepancies/ Other Comments:

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: AL
PC Secondary Review:

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

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REPORT QUALIFIERS AND DEFINITIONS

U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.

J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).

B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.

E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.

E Organics- Concentration has exceeded the calibration range for that specific analysis.

D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.

* Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.

H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.

Spike was diluted out.

+ Correlation coefficient for MSA is <0.995.

N Inorganics- Matrix spike recovery was outside laboratory limits.

N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.

S Concentration has been determined using Method of Standard Additions (MSA).

W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.

P Concentration >40% difference between the two GC columns.

C Confirmed by GC/MS

Q DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).

X See Case Narrative for discussion.

MRL Method Reporting Limit. Also known as:
LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.

MDL Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).

LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.

ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Accreditations[1]

NELAP States
Florida ID # E87674
New Hampshire ID # 2941
New York ID # 10145
Pennsylvania ID# 68-786
Virginia #460167

Non-NELAP States
Connecticut ID #PH0556
Delaware Approved
Maine ID #NY01587
North Carolina #36701
North Carolina #676
Rhode Island LAO00333

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: Foundation Design **Service Request:** R2206462
Project: Briarcliff Solar/5184.0

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
ALS SOP	Soil	Total Solids

Client:	Foundation Design	**Service Request:**	R2206462
Project:	Briarcliff Solar/5184.0		

Sample Name:	B22-3/S-1/0-2	**Date Collected:**	07/12/22
Lab Code:	R2206462-001	**Date Received:**	07/14/22
Sample Matrix:	Soil		

Analysis Method	Extracted/Digested By	Analyzed By
9056A	SMORGAN	SMORGAN
ALS SOP		KAWONG

Sample Name:	B22-5/S-1/0-2	**Date Collected:**	07/12/22
Lab Code:	R2206462-002	**Date Received:**	07/14/22
Sample Matrix:	Soil		

Analysis Method	Extracted/Digested By	Analyzed By
9056A	SMORGAN	SMORGAN
ALS SOP		KAWONG

Sample Name:	B22-10/S-2/2-4	**Date Collected:**	07/12/22
Lab Code:	R2206462-003	**Date Received:**	07/14/22
Sample Matrix:	Soil		

Analysis Method	Extracted/Digested By	Analyzed By
9056A	SMORGAN	SMORGAN
ALS SOP		KAWONG

Sample Name:	B22-11/S-1/0-2	**Date Collected:**	07/12/22
Lab Code:	R2206462-004	**Date Received:**	07/14/22
Sample Matrix:	Soil		

Analysis Method	Extracted/Digested By	Analyzed By
9056A	SMORGAN	SMORGAN
ALS SOP		KAWONG

Client:	Foundation Design	**Service Request:**	R2206462
Project:	Briarcliff Solar/5184.0		

Sample Name:	B22-12/S-1/0-2	**Date Collected:**	07/12/22
Lab Code:	R2206462-005	**Date Received:**	07/14/22
Sample Matrix:	Soil		

Analysis Method	Extracted/Digested By	Analyzed By
9056A	SMORGAN	SMORGAN
ALS SOP		KAWONG

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9034 Sulfide Acid Soluble	9030B
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7199	3060A
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction
For analytical methods not listed, the preparation method is the same as the analytical method reference.	

Sample Results

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www.alsglobal.com

General Chemistry

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Analytical Report

Client:	Foundation Design	**Service Request:**	R2206462
Project:	Briarcliff Solar/5184.0	**Date Collected:**	07/12/22
Sample Matrix:	Soil	**Date Received:**	07/14/22 13:42
Sample Name:	B22-3/S-1/0-2	**Basis:**	Dry
Lab Code:	R2206462-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	9056A	36 U	mg/Kg	36	1	07/19/22 15:48	07/19/22	
Sulfate	9056A	36 U	mg/Kg	36	1	07/19/22 15:48	07/19/22	

Analytical Report

Client:	Foundation Design	**Service Request:**	R2206462
Project:	Briarcliff Solar/5184.0	**Date Collected:**	07/12/22
Sample Matrix:	Soil	**Date Received:**	07/14/22 13:42
Sample Name:	B22-3/S-1/0-2	**Basis:**	As Received
Lab Code:	R2206462-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Total Solids	ALS SOP	**83.7**	Percent	-	1	07/20/22 06:35	NA	

Analytical Report

Client:	Foundation Design	**Service Request:**	R2206462
Project:	Briarcliff Solar/5184.0	**Date Collected:**	07/12/22
Sample Matrix:	Soil	**Date Received:**	07/14/22 13:42
Sample Name:	B22-5/S-1/0-2	**Basis:**	Dry
Lab Code:	R2206462-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	9056A	35 U	mg/Kg	35	1	07/19/22 15:54	07/19/22	
Sulfate	9056A	35 U	mg/Kg	35	1	07/19/22 15:54	07/19/22	

Analytical Report

Client:	Foundation Design	**Service Request:**	R2206462
Project:	Briarcliff Solar/5184.0	**Date Collected:**	07/12/22
Sample Matrix:	Soil	**Date Received:**	07/14/22 13:42
Sample Name:	B22-5/S-1/0-2	**Basis:**	As Received
Lab Code:	R2206462-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Total Solids	ALS SOP	**85.0**	Percent	-	1	07/20/22 06:35	NA	

Analytical Report

Client:	Foundation Design	**Service Request:**	R2206462
Project:	Briarcliff Solar/5184.0	**Date Collected:**	07/12/22
Sample Matrix:	Soil	**Date Received:**	07/14/22 13:42
Sample Name:	B22-10/S-2/2-4	**Basis:**	Dry
Lab Code:	R2206462-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	9056A	35 U	mg/Kg	35	1	07/19/22 16:13	07/19/22	
Sulfate	9056A	35 U	mg/Kg	35	1	07/19/22 16:13	07/19/22	

Analytical Report

Client:	Foundation Design	**Service Request:**	R2206462
Project:	Briarcliff Solar/5184.0	**Date Collected:**	07/12/22
Sample Matrix:	Soil	**Date Received:**	07/14/22 13:42
Sample Name:	B22-10/S-2/2-4	**Basis:**	As Received
Lab Code:	R2206462-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Total Solids	ALS SOP	**84.8**	Percent	-	1	07/20/22 06:35	NA	

Analytical Report

Client:	Foundation Design	**Service Request:**	R2206462
Project:	Briarcliff Solar/5184.0	**Date Collected:**	07/12/22
Sample Matrix:	Soil	**Date Received:**	07/14/22 13:42
Sample Name:	B22-11/S-1/0-2	**Basis:**	Dry
Lab Code:	R2206462-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	9056A	34 U	mg/Kg	34	1	07/19/22 16:19	07/19/22	
Sulfate	9056A	34 U	mg/Kg	34	1	07/19/22 16:19	07/19/22	

Analytical Report

Client:	Foundation Design	**Service Request:**	R2206462
Project:	Briarcliff Solar/5184.0	**Date Collected:**	07/12/22
Sample Matrix:	Soil	**Date Received:**	07/14/22 13:42
Sample Name:	B22-11/S-1/0-2	**Basis:**	As Received
Lab Code:	R2206462-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Total Solids	ALS SOP	**88.8**	Percent	-	1	07/20/22 06:35	NA	

Analytical Report

Client:	Foundation Design	**Service Request:**	R2206462
Project:	Briarcliff Solar/5184.0	**Date Collected:**	07/12/22
Sample Matrix:	Soil	**Date Received:**	07/14/22 13:42
Sample Name:	B22-12/S-1/0-2	**Basis:**	Dry
Lab Code:	R2206462-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	9056A	34 U	mg/Kg	34	1	07/19/22 16:25	07/19/22	
Sulfate	9056A	34 U	mg/Kg	34	1	07/19/22 16:25	07/19/22	

Analytical Report

Client:	Foundation Design	**Service Request:**	R2206462
Project:	Briarcliff Solar/5184.0	**Date Collected:**	07/12/22
Sample Matrix:	Soil	**Date Received:**	07/14/22 13:42
Sample Name:	B22-12/S-1/0-2	**Basis:**	As Received
Lab Code:	R2206462-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Total Solids	ALS SOP	**87.2**	Percent	-	1	07/20/22 06:35	NA	

QC Summary Forms

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Analytical Report

Client:	Foundation Design	**Service Request:**	R2206462
Project:	Briarcliff Solar/5184.0	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	Dry
Lab Code:	R2206462-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Chloride	9056A	30 U	mg/Kg	30	1	07/19/22 15:35	07/19/22	
Sulfate	9056A	30 U	mg/Kg	30	1	07/19/22 15:35	07/19/22	

Client: Foundation Design
Project: Briarcliff Solar/5184.0
Sample Matrix: Soil

Service Request:R2206462
Date Collected:07/12/22
Date Received:07/14/22
Date Analyzed:7/19/22

Duplicate Matrix Spike Summary
General Chemistry Parameters

Sample Name: B22-5/S-1/0-2
Lab Code: R2206462-002

Units:mg/Kg
Basis: Dry

			Matrix Spike R2206462-002MS			Duplicate Matrix Spike R2206462-002DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chloride	9056A	35 U	230	235	98	226	235	96	48-164	2	15
Sulfate	9056A	35 U	284	235	121	280	235	119	38-181	2	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Foundation Design
Project: Briarcliff Solar/5184.0
Sample Matrix: Soil

Service Request: R2206462
Date Analyzed: 07/19/22

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/Kg
Basis: Dry

Lab Control Sample
R2206462-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	9056A	189	200	94	80-120
Sulfate	9056A	192	200	96	80-120