SOLID GROUND
NC

REPORT OF SUBSURFACE EXPLORATION AND GEOTECHNICAL SERVICES
BOVIET SOLAR SUBSTATION
MARTIN LUTHER KING JR HIGHWAY
GREENVILLE, PITT COUNTY, NORTH CAROLINA

PREPARED FOR:
BOVIET SOLAR
1125 SUGG PARKWAY
GREENVILLE NORTH CAROLINA 27834

SOLID GROUND NC PROJECT NO. NC25-0130
MAY 29, 2025

Solid Ground Engineering NC, PLLC • 3714 Alliance Drive, Suite 400 • Greensboro, North Carolina 27407
Office: 919-800-9093 • website: www.solidgroundnc.co • NC License No. P-3004

SOLID GROUND
NC

May 29, 2025

Eunice Weng
Program Office, Manager
Boviet Solar
1125 Sugg Parkway
Greenville North Carolina 27834

RE: Report of Subsurface Exploration and Geotechnical Services
Boviet Solar Substation
Martin Luther King Jr Highway
Greenville, Pitt County, North Carolina
Solid Ground Project: NC24-0130

Dear Ms. Weng:

As authorized, Solid Ground Engineering NC, PLLC (Solid Ground NC) has completed the subsurface exploration and geotechnical analysis for the above referenced project.

This report presents the findings of our subsurface exploration and our evaluations, as well as recommendations regarding geotechnical-related design and construction considerations for the site.

Thank you for the opportunity to work with you on this project. Should you have any questions or if we could be of further assistance, please do not hesitate to contact us at 919-800-9093 or aric@solidgroundnc.com.

Sincerely,
Solid Ground Engineering NC, PLLC
NC Firm License No. P3004

Aric V. Geda, P.E.
Principal Engineer

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EXECUTIVE SUMMARY

Solid Ground NC, PLLC (Solid Ground NC) has completed the report of subsurface exploration and geotechnical engineering services for the Boviet Solar Substation to be located along the north side of MLK Jr. Boulevard, west of the existing Boviet Solar facility located at 1125 Sugg Parkway, Greenville, Pitt County, North Carolina. This summary should not be considered apart from the entire text of the report with all the qualifications and conditions mentioned herein.

We understand that the development consists of an electrical substation structure approximately 112,500 SF in size, 115,000 SF storage area, and drive lanes. We have not been provided loading information; however, we anticipate maximum column and wall loads will be on the order of 200 kips and 5 kips per linear foot, respectively. While a grading plan has not been provided for the site, we anticipate fill placement across the site.

Topsoil containing silty organic soil was encountered in each of the borings. Topsoil ranged from approximately 3 to 8 inches in thickness. Root mat in wooded and brush areas likely extend to a significantly deeper depth. Below the topsoil is the natural residual soil which contains an upper layer of medium stiff to stiff sandy clay extending to a depth of three to eight feet below ground surface. The upper clays transition into medium dense clayey sands, followed by clean fine sands which extend to the terminal depths of the borings.

Groundwater was encountered in several borings at varying depths between 2 and 4 feet below ground surface. It is anticipated that dewatering measures such as trenching, ditching, sumping, and pumping may be used to control surface water, however some dewatering may be required for deeper utilities.

Provided the recommendations presented in this report are followed, the proposed structures may be supported on conventional shallow footing foundations and ground-supported floor slab. Based on maximum anticipated column loads of 200 kips and wall loads of 5 kips per lineal foot, a design soil bearing pressure of 2000 PSF can generally be achieved immediately below surfacing materials and any softened clays across the site. This design pressure can also be used for any footings placed on newly placed engineered fill.

Based on results of soil test borings, past experience, and information provided in Section 1615 of the building code, it is our opinion it is our opinion that the subsurface characteristics reflect those of Seismic Site Classification D.

The recommended pavement sections are presented as follows:

Material Designation	Medium Duty Asphalt Pavement	Heavy Duty Asphalt Pavement	Rigid Concrete Pavement
Asphalt Surface Course (SF9.5A)	3.0 inches	1.5 inches	-
Asphalt Intermediate Course (I19.0B)	-	2.5 inches	-
Portland Cement Concrete	-	-	7.0 inches
Aggregate Base Course (NCDOT)	6.0 inches	10.0 inches	6.0 inches

1.0 PROJECT OVERVIEW

1.1 Project Description and Scope of Work

This report presents the results of the subsurface exploration and geotechnical engineering services for the Boviet Solar Substation to be located along the north side of MLK Jr. Boulevard, west of the existing facility located at 1125 Sugg Parkway, Greenville, Pitt County, North Carolina. A site location map is shown as Figure 1 in Appendix A. The explored area is a portion of the approximately 44-acre Blount Parcel and generally appears as undeveloped woodland.

The site was explored by eight (8) soil test borings (Borings B-101 through B-108) and sampling the soils to depths of up to 20 feet below existing site grades. The boring locations were located in the field by Solid Ground NC personnel using GPS and from known site features. The locations shown should be considered approximate given the methods used. A boring location plan is provided as Figure 2 in Appendix A of this report.

This report was prepared based upon the results of the boring and laboratory data. The purpose of this exploration is to describe the soil and groundwater conditions that were encountered in the test borings, to analyze and evaluate the test data obtained, and to submit preliminary recommendations regarding foundations, slabs, pavements, earthwork, construction, and other geotechnical-related considerations of design and construction.

1.2 Proposed Construction

We understand that the development consists of an electrical substation structure approximately 112,500 SF in size, 115,000 SF storage area, and drive lanes. We have not been provided loading information; however, we anticipate maximum column and wall loads will be on the order of 200 kips and 5 kips per linear foot, respectively. While a grading plan has not been provided for the site, we anticipate fill placement across the site.

2.0 FIELD EXPLORATION

2.1 Exploration Procedures

The soil borings were performed with a CME 550 ATV auger drilling rig, which utilized hollow stem augers to advance the boreholes. Drilling fluid was not used to advance the borings.

Representative soil samples were obtained by means of the split-barrel sampling procedure in general accordance with ASTM Specification D-1586. In this procedure, a 2-inch O. D. split-barrel sampler is driven into the soil a distance of 18 inches by a 140-pound hammer with a free fall of 30 inches. The number of blows required to drive the sampler through the final 12-inch interval is termed the Standard Penetration Test (SPT) N-value and is indicated for each sample on the boring logs.

The SPT N-value can be used to provide a qualitative indication of the in-place relative density of cohesionless soils. In a less reliable way, SPT N-values provide an indication of consistency for cohesive soils. These indications of relative density and consistency are qualitative, since many factors can significantly affect the SPT N-value and prevent a direct correlation between drill crews, drill rigs, drilling procedures, and hammer-rod-sampler assemblies.

Field logs of the soils encountered in the borings were maintained by a Solid Ground NC engineer. The soil samples obtained from the drilling operations were sealed and were brought to our laboratory for further examination.

3.0 EXPLORATION RESULTS

3.1 Site Conditions

The parcel is currently primarily woodland. The property is surrounded by undeveloped woodland to the north, with Catalent Pharma Solutions and Boviet Solar facilities to the east. Martin Luther King Jr Highway appears south of the subject property, beyond which is Gregory Pool Lift Systems, Coca-Cola Bottling Co Cons Manufacturer, and undeveloped woodland. The subject property is bound to the west by a power easement, beyond which is Avient Protective Materials LLC manufacturing complex. The site is accessed from Martin Luther King Jr Highway through the power easement west of the site.

3.2 Site Geology

The subject site is located in the Coastal Plain Physiographic Province. The Coastal Plain soils consist mainly of marine sediments that were deposited during successive periods of fluctuating sea level and moving shoreline. The soils include sands, silts, and clays with irregular deposits of shells, which are typical of those lain down in a shallow sloping sea bottom. Recent alluvial sands, silts, and clays are typically present near rivers and creeks. According to the 1985 Geologic Map of North Carolina, the site is mapped within the Yorktown and Duplin Formation, Undivided.

3.3 Subsurface Conditions

The specific soil conditions at each boring location are noted on the individual boring logs. A general description is also provided below. Subsurface conditions may vary between boring locations.

Surface Materials (Topsoil): Topsoil containing clayey organic soil was encountered in each of the borings. Topsoil ranged from approximately 3 to 8 inches in thickness. Root mat in the wooded areas likely extend to a significantly deeper depth.

Fill Soils: No fill soils were encountered at the site.

Natural Soil: Below the topsoil is the natural residual soil which contains an upper layer of medium stiff to stiff sandy clay extending to a depth of three to eight feet below ground surface. The upper clays transition into medium dense clayey sands, followed by clean fine sands which extend to the terminal depths of the borings.

3.4 Groundwater

Groundwater was encountered in each of the borings at varying depths between 2 and 4 feet below ground surface. It is anticipated that dewatering measures such as trenching, ditching, sumping, and pumping may be used to control surface water if construction is performed in the rainy portion of the year.

4.0 ANALYSIS AND RECOMMENDATIONS

The following preliminary design and construction recommendations are based on our above-stated understanding of the proposed construction and on the data obtained from the field exploration and visual soil classification. The following recommendations are for design purposes and may require modification if loads or building locations change.

4.1 Foundations

Provided the recommendations presented in this report are followed, the proposed structures may be supported on conventional shallow footing foundations and ground-supported floor slab.

Based on maximum anticipated column loads of 200 kips and wall loads of 5 kips per lineal foot, a design soil bearing pressure of 2000 PSF can generally be achieved immediately below surfacing materials and any softened clays across the site. This design pressure can also be used for any footings placed on newly placed engineered fill.

In order to provide adequate frost cover protection and embedment for bearing capacity, we recommend that footings be located at minimum depths of 18 inches below finished exterior grades. In order to prevent disproportionately small footing sizes, we recommend that strip footings have a minimum width of 18 inches and that isolated column footings have a minimum lateral dimension of 24 inches. The minimum dimension sizes, as recommended above, are utilized to reduce foundation difficulties as a result of local shear or "punching" action.

A representative of the geotechnical engineer should observe the foundation subgrade to verify that conditions exposed at the subgrade are suitable for the design bearing pressures. If unsuitable materials are encountered, it may be necessary to lower the base of the footing through the unsuitable materials or to undercut the unsuitable soils and to restore original bearing levels by placing engineered fill materials, NCDOT No. 57 or No. 67 stone or lean concrete.

4.2 Settlement

We anticipate that foundations designed according to the above recommendations should experience total settlements of less than 1 inch for footings designed and constructed as previously recommended. In our opinion, this should limit differential settlements between similarly loaded adjacent columns to magnitudes of ½ inch. Sufficient time should be allowed for any newly-placed fill settlements to stabilize prior to beginning foundation construction.

4.3 Floor Slabs

The floor slab subgrade should consist of new engineered fill or approved existing soils and should include a minimum 4-inch-thick layer of washed stone (NCDOT #57). For point loading conditions, the slab may be designed based on a 100 psi/in value for the modulus of subgrade reaction.

We recommend that a capillary cutoff layer be provided under the floor slabs to prevent the rise of water through the slab. The capillary layer should consist, at a minimum, of a 4-inch thick clean, crushed stone or washed gravel layer, having a maximum size of 1.5 inches with a maximum of 2 percent passing the No. 200 sieve. A vapor retarder should be considered beneath concrete slabs on grade that will be covered with wood, tile, carpet or other moisture sensitive or impervious coverings. The slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

4.4 Seismic Conditions

Per Section 1615 of the North Carolina Building Code, the design of a structure must consider dynamic forces resulting from seismic events, regardless of their likelihood of occurrence. As part of a generalized procedure to estimate seismic forces, the code assigns a Seismic Site Classification (letter designation of Class A through F) based on the subgrade soil/rock conditions within the upper 100 feet of the ground surface at the subject site. Based on results of soil test borings, past experience, and information provided in Section 1615, it is our opinion it is our opinion that the subsurface characteristics reflect those of Site Class D.

If the design and construction cost savings associated with an improved Site Class are favorable, it may be prudent to perform Shear Wave Velocity measurements at the site to determine if the more favorable Site Class is available. We would be pleased to further discuss these options with the client and design team, if warranted.

Liquefaction is not expected based on its fines content and the relatively low level of ground motions projected for a seismic event.

4.5 Site Drainage

We recommend the ground surface be sloped away from the foundations and building pad for a minimum distance of at least 10 feet, and that all downspouts be connected to tightline drains that discharge to a suitable location downslope of the foundations. Paved areas should also have positive drainage.

4.6 Groundwater Control

Based on the results of the borings, we anticipate that some dewatering may be necessary during construction of deeper utility lines. For most shallow excavations, we expect groundwater can be controlled through the use of ditches, sumps, and pumps.

If water collects in foundation excavations, it will be necessary to remove the water from the excavation, remove the saturated soils, and re-test the adequacy of the bearing surface to support the design bearing pressure prior to concrete placement. Establishing a system of drainage ditches to carry surface and shallow groundwater away from building sites and roadways should reduce grading costs.

4.7 Excavation Considerations

Most of the upper 15 to 20 feet of on-site soils are OSHA Type C soils for the purpose of temporary excavation support. Excavations should be constructed in compliance with current OSHA standards for excavation and trenching safety. Excavations should be observed by a “competent person”, as defined by OSHA, who should evaluate the specific soil type and other conditions, which may control the excavation side slopes or the need for shoring or bracing.

4.8 Pavement

Pavement subgrades should be prepared as outlined in Sections 5.1 and 5.2 of this report. We were not provided with details regarding traffic conditions at the site. Pavement section alternatives have been provided below. Medium duty pavement sections are recommended for areas that will be subjected to passenger cars and pickup truck traffic. Heavy duty areas are recommended for areas that will experience truck traffic. For our heavy-duty design, we have assumed 500,000 equivalent single axle loads (ESALs) over a 20-year design life.

The recommended pavement sections are presented below:

Material Designation	Medium Duty Asphalt Pavement	Heavy Duty Asphalt Pavement	Rigid Concrete Pavement
Asphalt Surface Course (SF9.5A)	3.0 inches	1.5 inches	-
Asphalt Intermediate Course (I19.0B)	-	2.5 inches	-
Portland Cement Concrete	-	-	7.0 inches
Aggregate Base Course (NCDOT)	6.0 inches	10.0 inches	6.0 inches

The base course materials beneath pavements should be compacted to at least 100 percent of their modified Proctor maximum dry density (ASTM D 1557). The asphalt concrete and the crushed stone materials should conform to the current North Carolina Department of Transportation Standard Specifications. If concrete pavement sections are incorporated into the site design, Rigid sections should consist of 4,000 psi compressive strength concrete or greater.

Regardless of the section and type of construction utilized, saturation of the subgrade materials will result in a softening of the subgrade materials and shortened life span for the pavement. Risk of subgrade softening can be reduced by means of quickly removing surface and subsurface water, resulting in an increased likelihood of improved pavement performance. Therefore, we recommend that both the surface and subsurface materials for the pavement be properly graded to enhance surface and subgrade drainage. In addition, placement of ½-inch diameter holes drilled through catch basins at or slightly above the subgrade elevation will facilitate base course drainage into the catch basin.

Gravel Yards / Fire Lanes

A stable subgrade is a priority to gravel pavement performance. Immediately prior to paving, the subgrade should be proof rolled and any unstable areas that are not firm and unyielding be repaired. A 6” ABC gravel course should be compacted to at least 100% of the maximum dry density, as determined by the Modified Proctor Compaction Test (ASTM D1557). To document that the base course has been uniformly compacted, in-place field density tests should be performed by Solid Ground and the area should be methodically proof rolled under the engineer’s observation.

The performance of gravel pavements will be dependent upon a number of factors, including subgrade conditions at the time of paving, rainwater runoff, and traffic. With the near surface soils onsite consisting of silts, they are susceptible to softening when exposed to moisture and excessive construction traffic. Rainwater runoff should not be allowed to seep below pavements from adjacent areas. Therefore, drainage swales should be designed around the paved area. We recommend that the parking lot be shaped with a minimum of 3% slope to the swales to allow for proper drainage.

5.0 CONSTRUCTION CONSIDERATIONS

5.1 Site Preparation and Clearing

The site should be cleared of topsoil, vegetation, root mat, and other deleterious materials. We recommend that any soft or unsuitable material be removed from the proposed construction area. Areas that are being rough graded and used as staging areas or left for more than a few weeks should be crowned and left 12 inches above the final subgrade elevation to help protect the finished subgrade from disturbance. Leaving the subgrade high may reduce the disturbance and saturation of the subgrade that would normally require undercutting.

Once the site is stripped, cleared and prepared as outlined above, and prior to placing any new fill to raise the grade, the site should be proofrolled using a loaded dump truck, having an axle weight of at least 10 tons, and observed by an experienced geotechnical engineer, or his representative, at the time of construction to aid in identifying any areas with soft or unsuitable materials. Probing may be used at this time to aid in identifying areas of soft or unsuitable material. Any soft or unsuitable materials encountered during this proofrolling should be removed and replaced with an approved backfill compacted to the criteria given in Section 5.2 *Fill Placement and Soil Compaction*.

Grading operations at this site will be more economical if performed during the drier periods of the year (typically April to November). However, during the wetter periods of the year, wet soils probably can be dried by using discing or other drying procedures, such as lime or cement stabilization, to achieve moisture contents necessary to achieve adequate degrees of compaction. The site should be graded to enhance surface water runoff to reduce the ponding of water. Ponding of water often results in softening of the near-surface soils. When rainfall is anticipated during grading operations, we recommend areas of disturbed soil be rolled with a smooth drum roller and that the grading activities cease until the site has had a chance to dry.

5.2 Fill Placement and Soil Compaction

Soils used as fill should be approved materials, free of organics, debris, frozen and foreign material, and generally having a maximum Liquid Limit of 50 and a maximum Plasticity Index of 20. Most of the on-site low plasticity soils (SP and SM) can be used as backfill material for this project provided their moisture contents are within acceptable range outlined in this report. The maximum particle size in the fill should be less than ½ the thickness of the compacted lift.

Any fill or backfill placed in footing, slab, and pavement areas should be compacted to a minimum of 95 percent of the maximum dry density obtained in accordance with ASTM Specification D-698, Standard Proctor Method. However, the upper 18 inches of fill below any structural or pavement areas should be compacted to 98 percent of the maximum dry density. Any fill or backfill placed in utility trench and sidewalk areas should be compacted to a minimum of 95 percent of the maximum dry density obtained in accordance with ASTM Specification D-698, Standard Proctor Method. Fill should be placed in lifts of approximately 8 to 10 inches in loose thickness with fill operations continuing until the subgrade elevations are achieved. To aid in achieving compaction, we recommend that the moisture content of the fill materials at the time of placement be within +/- 3 percentage points of the optimum moisture content established by the above referenced laboratory compaction tests.

Any fill or backfill placed in landscaped areas should be compacted to a minimum of 90 percent of the maximum dry density obtained in accordance with ASTM Specification D-698, Standard Proctor Method.

We recommend that the placement of compacted structural fill and recompaction of the subgrade soils in the construction area be observed by a representative of the geotechnical engineer to determine if proper compaction is being achieved. In-place density tests made in accordance with ASTM Designation D-1556, D-6938, or equivalent should be used to verify compaction. We recommend a minimum of one test per lift for every 5,000 square foot area, or fraction thereof, for the building pad area and every 10,000 square foot area, or fraction thereof, elsewhere. We also recommend at least one test per lift for every 100 linear feet of utility trench backfill, or fraction thereof.

6.0 GENERAL COMMENTS

This report has been prepared in order to aid in the evaluation of this property and to assist the architect and/or engineers in the preliminary design of this project. The scope is limited to the specific project and locations described herein and our description of the project represents our understanding of the significant aspects relative to soil and foundation characteristics. In the event that any changes in the nature or location of the proposed construction outlined in this report are planned, we should be informed so that the changes can be reviewed and the conclusions of this report modified or approved in writing by the geotechnical engineer. It is recommended that all construction operations dealing with earthwork and foundations are reviewed by an experienced geotechnical engineer to provide information as to whether the design requirements are fulfilled in the actual construction. We would welcome the opportunity to provide field construction services for you during construction.

The analysis and recommendations submitted in this report are based upon the data obtained from the soil borings and tests performed at the locations as indicated on the Boring Location Diagram and other information referenced in this report. This report does not reflect any variations which may occur between the borings. In the performance of the subsurface exploration, specific information is obtained at specific locations at specific times. However, it is a well-known fact that variations in soil conditions exist on most sites between boring locations and also such situations as groundwater levels vary from time to time. The nature and extent of variations may not become evident until during the course of construction. If site conditions vary from those identified during the subsurface exploration, the recommendations contained in this report may require revision. Once final layouts are established, additional subsurface explorations need to be performed.

APPENDIX A

Figures

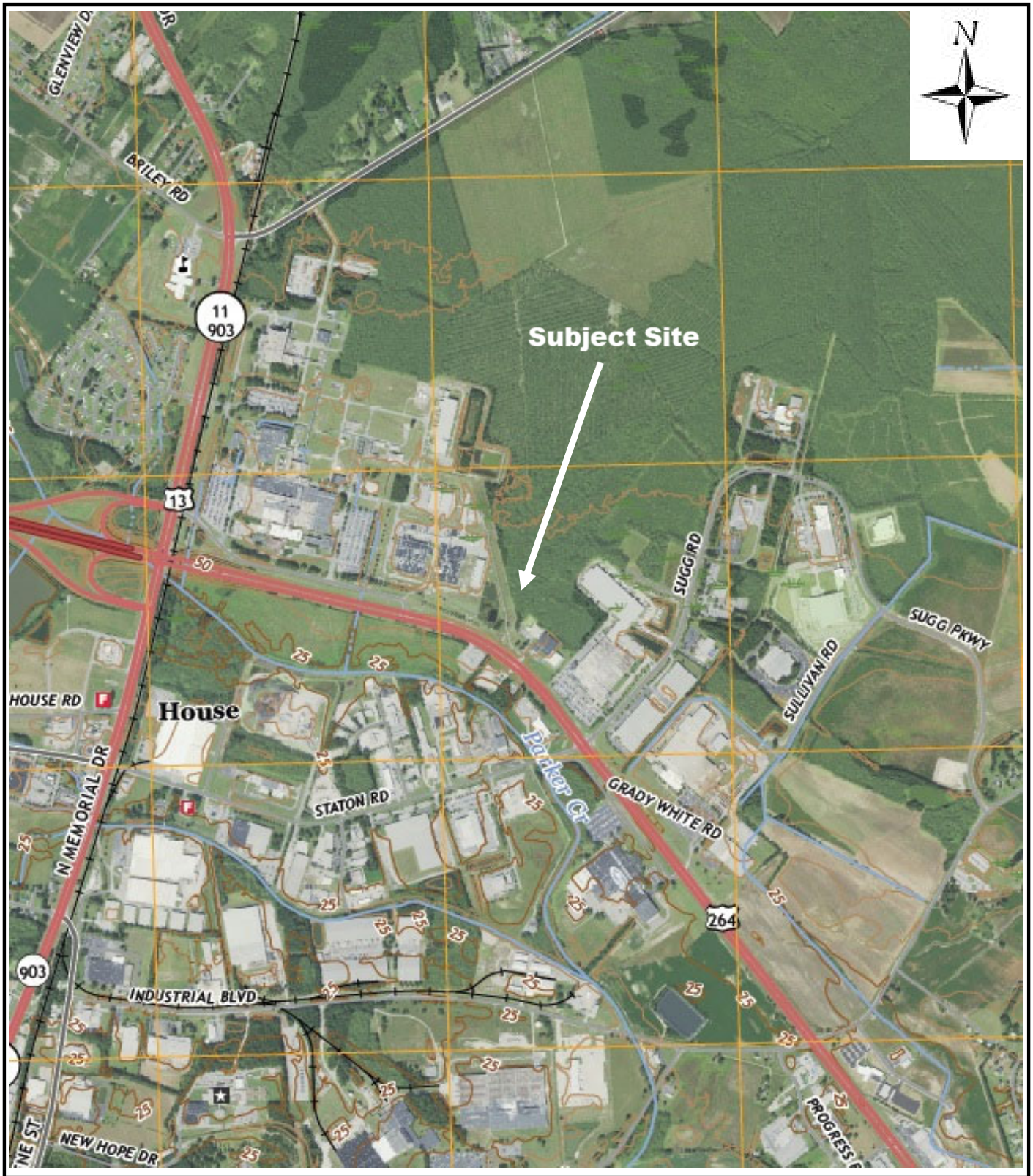

FIGURE 1- SUBJECT PROPERTY LOCATION MAP

Boviet Solar Substation Martin Luther King Jr Highway Greenville, North Carolina	SOLID GROUND NC 3714 Alliance Drive, Suite 400 Greensboro, North Carolina 27407 (919) 800-9093	Project No: NC25-0130 May 2025 Map Source: USGS 2022

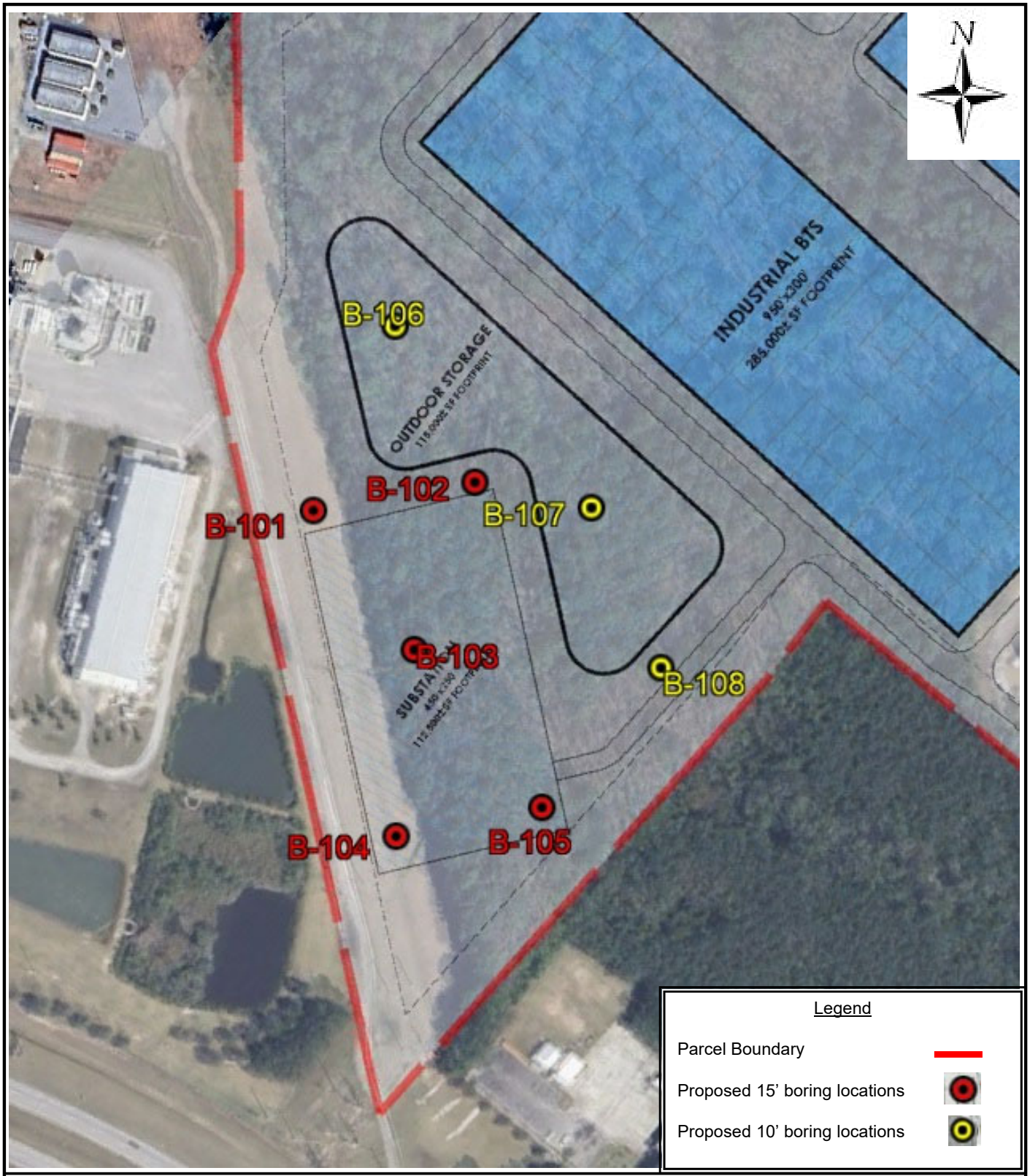

FIGURE 2- BORING LOCATIONS ON CONCEPTUAL PLAN

Boviet Solar Substation
Martin Luther King Jr Highway
Greenville, North Carolina

SOLID GROUND NC
3714 Alliance Drive, Suite 400
Greensboro, North Carolina 27407
(919) 800-9093

Project No: NC25-0130

May 2025
Map Source: ARCO

APPENDIX B

Boring Logs

Project:	Project Number:	Client:	Boring No.
Boviet Solar Substation	**NC25-0130**	**Boviet Solar**	**B-101**
Address, City, State		Drilling Contractor:	Drill Rig Type:
MLK JR HWY		**J&L**	**CME 550**
Logged By:	Date — Started:	Bit Type:	Diameter:
Geda	**5/23/25**	**HS**	**2-1/4"**
Drill Crew:	Date — Completed:	Hammer Type:	
Casey	**5/23/25**	**Safety**	
Ticket Number:	Backfilled:	Hammer Weight:	Hammer Drop:
	Cuttings	**140#**	**30"**

Surface Elev.	GW Depth	GW Elevation	Total Depth of Boring:
33.0	**3.8**	**29.2**	**20 feet**

Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology	Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
					Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors **Rock Description:** modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.			
					3" Clayey Topsoil			
2	SS	1	7		Sandy CLAY, tan-gray, moist, medium stiff (CL)			
4	SS	2	6			▼		
6	SS	3	11		Clayey fine SAND, tan-gray, wet, loose (SC)			
8	SS	4	12		Sandy CLAY, gray, moist, stiff (CL)			
10								
12								
14	SS	5	12					
16					Fine SAND, gray, wet, medium dense (SP)			
18								
20	SS	6	15		End of Boring-20'			
22								
24								

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

WR- Weathered Rock

California Sampler

▼ Stabllized Ground water

Shelby Tube

▽ Groundwater At time of Drilling

CPP Sampler

Bulk/ Bag Sample

Project:	Project Number:	Client:	Boring No.
Boviet Solar Substation	**NC25-0130**	**Boviet Solar**	**B-102**
Address, City, State		Drilling Contractor:	Drill Rig Type:
MLK JR HWY		**J&L**	**CME 550**
Logged By:	Date — Started:	Bit Type:	Diameter:
Geda	**5/23/25**	**HS**	**2-1/4"**
Drill Crew:	Date — Completed:	Hammer Type:	
Casey	**5/23/25**	**Safety**	
Ticket Number:	Backfilled:	Hammer Weight:	Hammer Drop:
	Cuttings	**140#**	**30"**

Surface Elev.	GW Depth	GW Elevation	Total Depth of Boring:
33.0	**3.5**	**29.5**	**20 feet**

Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology	Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
					Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors **Rock Description:** modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.			
					4" Clayey Topsoil			
2	SS	1	9		Sandy CLAY, brown-gray, moist, stiff (CL)			
4	SS	2	10		Clayey fine SAND, brown-gray, wet, medium dense (SC)	▼		
6	SS	3	13					
8	SS	4	15					
10								
12								
14	SS	5	8		Fine SAND, gray, wet, loose (SP)			
16								
18								
20	SS	6	5					
					End of Boring-20'			
22								
24								

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

WR- Weathered Rock

California Sampler

▼ Stabllized Ground water

Shelby Tube

▽ Groundwater At time of Drilling

CPP Sampler

Bulk/ Bag Sample

Project:	Project Number:	Client:	Boring No.
Boviet Solar Substation	**NC25-0130**	**Boviet Solar**	**B-103**
Address, City, State		Drilling Contractor:	Drill Rig Type:
MLK JR HWY		**J&L**	**CME 550**
Logged By:	Date — Started:	Bit Type:	Diameter:
Geda	**5/23/25**	**HS**	**2-1/4"**
Drill Crew:	Date — Completed:	Hammer Type:	
Casey	**5/23/25**	**Safety**	
Ticket Number:	Backfilled:	Hammer Weight:	Hammer Drop:
	Cuttings	**140#**	**30"**

Surface Elev.	GW Depth	GW Elevation	Total Depth of Boring:
32.0	**3.2**	**28.8**	**20 feet**

Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology	Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
0					3" Clayey Topsoil			
2	SS	1	6		Sandy CLAY, tan-gray, moist, medium stiff (CL)	▼		
4	SS	2	6					
6	SS	3	8					
8					Clayey fine SAND, tan-gray, wet, loose (SC)			
10	SS	4	5					
12								
14	SS	5	5					
16					Fine SAND, gray, wet, loose (SP)			
18								
20	SS	6	5		End of Boring-20'			
22								
24								

Lithology

Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors

Rock Description: modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

California Sampler

Shelby Tube

CPP Sampler

Bulk/ Bag Sample

WR- Weathered Rock

▼ Stabllized Ground water

▽ Groundwater At time of Drilling

Project:	Project Number:	Client:	Boring No.
Boviet Solar Substation	**NC25-0130**	**Boviet Solar**	**B-104**
Address, City, State		Drilling Contractor:	Drill Rig Type:
MLK JR HWY		**J&L**	**CME 550**
Logged By:	Date — Started:	Bit Type:	Diameter:
Geda	**5/23/25**	**HS**	**2-1/4"**
Drill Crew:	Date — Completed:	Hammer Type:	
Casey	**5/23/25**	**Safety**	
Ticket Number:	Date — Backfilled:	Hammer Weight:	Hammer Drop:
	Cuttings	**140#**	**30"**
	Surface Elev. **31.0** / GW Depth **2.3**	GW Elevation **28.7**	Total Depth of Boring: **20 feet**

Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology	Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
0					4" Clayey Topsoil			
2	SS	1	6		Sandy CLAY, tan-gray, moist, medium stiff (CL)	▼		
4	SS	2	6					
6	SS	3	14		Clayey fine SAND, tan-gray, wet, medium dense (SC)			
8	SS	4	20		Sandy CLAY, gray, moist, very stiff (CL)			
10								
12					Fine SAND, gray, wet, medium dense (SP)			
14	SS	5	25					
16								
18								
20	SS	6	18					
22					End of Boring-20'			
24								

Lithology

Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors

Rock Description: modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

California Sampler

Shelby Tube

CPP Sampler

Bulk/ Bag Sample

WR- Weathered Rock

▼ Stabllized Ground water

▽ Groundwater At time of Drilling

Project:	Project Number:	Client:	Boring No.
Boviet Solar Substation	**NC25-0130**	**Boviet Solar**	**B-105**
Address, City, State		Drilling Contractor:	Drill Rig Type:
MLK JR HWY		**J&L**	**CME 550**
Logged By:	Date — Started:	Bit Type:	Diameter:
Geda	**5/23/25**	**HS**	**2-1/4"**
Drill Crew:	Date — Completed:	Hammer Type:	
Casey	**5/23/25**	**Safety**	
Ticket Number:	Date — Backfilled:	Hammer Weight:	Hammer Drop:
	Cuttings	**140#**	**30"**
	Surface Elev. / GW Depth	GW Elevation	Total Depth of Boring:
	31.0 / **2.5**	**28.5**	**20 feet**

Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology	Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
0					3" Clayey Topsoil			
2	SS	1	6		Sandy CLAY, tan-gray, moist, medium stiff (CL)	▼		
4	SS	2	7					
6	SS	3	5					
8	SS	4	10		Clayey fine SAND, tan-gray, wet, medium dense (SC)			
10								
12								
14	SS	5	16					
16					Fine SAND, gray, wet, medium dense (SP)			
18								
20	SS	6	19		End of Boring-20'			
22								
24								

Lithology

Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors

Rock Description: modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

California Sampler

Shelby Tube

CPP Sampler

Bulk/ Bag Sample

WR- Weathered Rock

Stabllized Ground water

Groundwater At time of Drilling

Project:	Project Number:	Client:	Boring No.
Boviet Solar Substation	**NC25-0130**	**Boviet Solar**	**B-106**
Address, City, State		Drilling Contractor:	Drill Rig Type:
MLK JR HWY		**J&L**	**CME 550**
Logged By:	Date — Started:	Bit Type:	Diameter:
Geda	**5/23/25**	**HS**	**2-1/4"**
Drill Crew:	Date — Completed:	Hammer Type:	
Casey	**5/23/25**	**Safety**	
Ticket Number:	Date — Backfilled:	Hammer Weight:	Hammer Drop:
	Cuttings	**140#**	**30"**
	Surface Elev. **34.0** / GW Depth **3.9**	GW Elevation **30.1**	Total Depth of Boring: **10 feet**

Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology	Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
0					8" Clayey Topsoil			
2	SS	1	4		Sandy CLAY, gray, moist, medium stiff (CL)			
4	SS	2	11		Clayey fine SAND, gray, wet, medium dense (SC)	▼		
6	SS	3	26					
8								
10	SS	4	12		End of Boring-10'			
12								
14								
16								
18								
20								
22								
24								

Lithology

Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors

Rock Description: modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

California Sampler

Shelby Tube

CPP Sampler

Bulk/ Bag Sample

WR- Weathered Rock

▼ Stabllized Ground water

▽ Groundwater At time of Drilling

Project:	Project Number:	Client:	Boring No.
Boviet Solar Substation	**NC25-0130**	**Boviet Solar**	**B-107**
Address, City, State		Drilling Contractor:	Drill Rig Type:
MLK JR HWY		**J&L**	**CME 550**
Logged By:	Date — Started:	Bit Type:	Diameter:
Geda	**5/23/25**	**HS**	**2-1/4"**
Drill Crew:	Date — Completed:	Hammer Type:	
Casey	**5/23/25**	**Safety**	
Ticket Number:	Date — Backfilled:	Hammer Weight:	Hammer Drop:
	Cuttings	**140#**	**30"**
	Surface Elev. / GW Depth	GW Elevation	Total Depth of Boring:
	33.0 / **3.9**	**29.1**	**10 feet**

Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology	Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
0					4" Clayey Topsoil			
2	SS	1	8		Sandy CLAY, gray, moist, stiff (CL)			
4	SS	2	21		Clayey fine SAND, gray, wet, medium dense (SC)	▼		
6	SS	3	22					
8	SS	4	15					
10					End of Boring-10'			
12								
14								
16								
18								
20								
22								
24								

Lithology

Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors

Rock Description: modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

WR- Weathered Rock

California Sampler

▼ Stabllized Ground water

Shelby Tube

▽ Groundwater At time of Drilling

CPP Sampler

Bulk/ Bag Sample

Project:	Project Number:	Client:	Boring No.
Boviet Solar Substation	**NC25-0130**	**Boviet Solar**	**B-108**
Address, City, State		Drilling Contractor:	Drill Rig Type:
MLK JR HWY		**J&L**	**CME 550**
Logged By:	Date — Started:	Bit Type:	Diameter:
Geda	**5/23/25**	**HS**	**2-1/4"**
Drill Crew:	Date — Completed:	Hammer Type:	
Casey	**5/23/25**	**Safety**	
Ticket Number:	Date — Backfilled:	Hammer Weight:	Hammer Drop:
	Cuttings	**140#**	**30"**
	Surface Elev. / GW Depth	GW Elevation	Total Depth of Boring:
	32.0 / **3.2**	**28.8**	**10 feet**

Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology	Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
					7" Clayey Topsoil			
2	SS	1	10		Sandy CLAY, tan-gray, moist, stiff to medium stiff (CL)	▼		
4	SS	2	7					
6	SS	3	6					
8	SS	4	6		Clayey fine SAND, tan-gray, wet, loose (SC)			
10					End of Boring-10'			
12								
14								
16								
18								
20								
22								
24								

Lithology

Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors

Rock Description: modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

California Sampler

Shelby Tube

CPP Sampler

Bulk/ Bag Sample

WR- Weathered Rock

▼ Stabllized Ground water

▽ Groundwater At time of Drilling

APPENDIX C

GENERAL CONDITIONS

The analysis, conclusions, and recommendations submitted in this report are based on the exploration previously outlined and the data collected at the points shown on the attached location plan. This report does not reflect specific variations that may occur between test locations. The borings were located where site conditions permitted and where it is believed representative conditions occur, but the full nature and extent of variations between borings and of subsurface conditions not encountered by any boring may not become evident until the course of construction. If variations become evident at any time before or during the course of construction, it will be necessary to make a re-evaluation of the conclusions and recommendations of this report and further exploration, observation, and/or testing may be required.

This report has been prepared in accordance with generally accepted soil and foundation engineering practices and makes no other warranties, either express or implied, as to the professional advice under the terms of our agreement and included in this report. The recommendations contained herein are made with the understanding that the contract documents between the owner and foundation or earthwork contractor or between the owner and the general contractor and the caisson, foundation, excavating and earthwork subcontractors, if any, shall require that the contractor certify that all work in connection with foundations, piles, caissons, compacted fills and other elements of the foundation or other support components are in place at the locations, with proper dimensions and plumb, as shown on the plans and specifications for the project.

Further, it is understood the contract documents will specify that the contractor will, upon becoming aware of apparent or latent subsurface conditions differing from those disclosed by the original soil exploration work, promptly notify the owner, both verbally to permit immediate verification of the change, and in writing, as to the nature and extent of the differing conditions and that no claim by the contractor for any conditions differing from those anticipated in the plans and specifications and disclosed by the soil explorations will be allowed under the contract unless the contractor has so notified the owner both verbally and in writing, as required above, of such changed conditions. The owner will, in turn, promptly notify this firm of the existence of such unanticipated conditions and will authorize such further exploration as may be required to properly evaluate these conditions.

Further, it is understood that any specific recommendations made in this report as to on-site construction review by this firm will be authorized and funds and facilities for such review will be provided at the times recommended if we are to be held responsible for the design recommendations.

APPENDIX D

PROCEDURES REGARDING FIELD LOGS, LABORATORY DATA SHEETS, AND SAMPLES

In the process of obtaining and testing samples and preparing this report, procedures are followed that represent reasonable and accepted practice in the field of soil and foundation engineering.

Specifically, field logs are prepared during performance of the drilling and sampling operations which are intended to portray essentially field occurrences, sampling locations, and other information.

Samples obtained in the field are frequently subjected to additional testing and reclassification in the laboratory by more experienced soil engineers, and differences between the field logs and the final logs exist.

The engineer preparing the report reviews the field and laboratory logs, classifications and test data, and his judgment in interpreting this data, may make further changes.

Samples are taken in the field, some of which are later subjected to laboratory tests, are retained in our laboratory for sixty days and are then discarded unless special disposition is requested by our client. Samples retained over a long period of time, even if sealed in jars, are subject to moisture loss which changes the apparent strength of cohesive soil generally increasing the strength from what was originally encountered in the field. Since they are then no longer representative of the moisture conditions initially encountered, an inspection of these samples should recognize this factor.