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May 9, 2018

Via Hand Delivery and Electronic Mail

Melanie A. Bachman
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Petition No. 1341: A Petition Of The Durham Manufacturing Company To Approve By Declaratory Ruling The Construction And Operation Of A Solar Photovoltaic Electric Generating Facility At 201 Main Street, Durham, Connecticut**

Dear Ms. Bachman:

Enclosed please find the original and fifteen (15) copies of Durham Manufacturing Company's responses to the Connecticut Siting Council's first set of interrogatories issued April 18, 2018 in the above-referenced matter. One full-sized copy of the electrical drawings provided at Attachment B and the site plans provided at Attachment C will be sent under separate cover.

If you have any questions or need any additional information please do not hesitate to contact me at the telephone number listed above or Earl W. Phillips, Jr. at (860) 275-8220.

Sincerely,

Emilee Mooney Scott

Emilee Mooney Scott

Enclosures

Copy to:
John Gowac (via email)
Douglas Bagwill (via email)
Michael P. Libertine (via email)
Earl W. Phillips, Jr. (via email)

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	:	
	:	
A PETITION OF THE DURHAM MANUFACTURING COMPANY TO APPROVE BY DECLARATORY RULING THE CONSTRUCTION AND OPERATION OF A SOLAR PHOTOVOLTAIC ELECTRIC GENERATING FACILITY AT 201 MAIN STREET, DURHAM, CONNECTICUT	:	PETITION NO. 1341
	:	MAY 9, 2018

RESPONSES OF DURHAM MANUFACTURING COMPANY TO CONNECTICUT SITING COUNCIL INTERROGATORIES

On April 18, 2018 the Connecticut Siting Council ("Council") issued interrogatories to the Durham Manufacturing Company ("Durham Manufacturing" or "DMC"), related to the above-captioned docket. Below are Durham Manufacturing's responses.

General

Question No. 1

Regarding Petition Tab 7, was a copy of the petition served on the Town of Durham Inland Wetlands Commission?

Response

A copy of the petition was not served on the Town of Durham Inland Wetlands Commission in Durham Manufacturing's initial mailing, but was sent via Federal Express overnight delivery on April 18, 2018.

Question No. 2

What is the relationship between the petitioner and the developer? If the project is approved, identify all permits necessary for construction and operation and which entity will hold the permit(s)?

Response

Durham Manufacturing is the owner/developer of the proposed solar project (the "Project") and the petitioner. Project construction requires a Connecticut Department of Energy and Environmental Protection ("DEEP") General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities ("Stormwater General Permit") and a self-verification form under Department of the Army General Permits for the State of Connecticut, General Permit #6 for utility line activities ("Army Corps of Engineers Connecticut General Permit"). Durham Manufacturing will hold both of these general permits.

Pfister Energy, Inc. ("Pfister") is the Engineering Procurement Construction contractor for the Project. Pfister will secure local building and electrical permits under its contractor's license, with Durham Manufacturing as the applicant.

Question No. 3

Is the Petitioner participating in any Department of Energy and Environmental Protection renewable energy programs? If so, identify the programs.

Response

Durham Manufacturing has entered into two contracts with Eversource for the Purchase and Sale of Connecticut Class 1 Renewable Energy credits. The Project has not participated in any DEEP renewable energy procurement programs.

Proposed Site

Question No. 4

What types of development are allowed in the Farm Residential zone district? What would be the minimum lot size of development under the applicable zone?

Response

The Town of Durham Zoning Regulations permit farms and other agricultural operations, dwellings, private garages, and home daycares as of right in the Farm Residential Zone. Town of Durham Zoning Regulations, § 05.01.01.01. Community garages, home occupations, some types of offices (not including medical offices), public schools, and public utility buildings (other than service yards) are permitted by right in the Farm Residential zone subject to site plan review. *Id.* A number of other uses are permitted as a special exception in the Farm Residential zone, including apartment buildings, community centers, excavation and earth removal, hospitals, and rooming houses. *Id.* The minimum lot size in the Farm Residential zone is 87,120 square feet, i.e., two acres. *Id.* at § 04.02.01.

Question No. 5

Have any land use development plans been approved by the municipality for the proposed site in the past?

Response

No, the municipality has not approved any other development plans for the Project area.

Question No. 6

Is the site parcel, or any portion thereof, part of the Public Act 490 Program? If so, how does the municipal land use code classify the parcel(s)? For example, is/are the parcel(s) classified as "Tillable D – good to fair"? How would the project affect the use classification?

Response

No, no portion of the site parcel is part of the Public Act 490 Program.

Question No. 7

Has the State of Connecticut Department of Agriculture purchased any development rights for the project site or any portion of the project site as part of the State Program for the Preservation of Agricultural Land?

Response

No, the State of Connecticut Department of Agriculture has not purchased any development rights for the Project site or any portion of the Project site.

Question No. 8

Referring to Petition p. 11, has the Petitioner received a response from the State Historic Preservation Office [SHPO] regarding the proposed project? If so, please provide?

Response

Yes. The SHPO responded in a letter dated February 26, 2018 (but not transmitted by SHPO or received by All-Points Technology Corp. ("APT") until mid-March) requesting a Phase 1B professional cultural resources assessment and reconnaissance survey be completed at the Project site prior to construction. A copy of the SHPO response is provided as Attachment A.

Question No. 9

Is the Christmas tree farm still active? If so, is it used by the property owner or is it leased to a third party?

Response

No. The Christmas tree business ceased operations on December 24, 2017.

Question No. 10

Where is the nearest off-site residence from the solar field perimeter fence? Provide the distance, direction and address to the off-site residence.

Response

The nearest off-site residence from the solar field perimeter fence is located approximately 100 feet to the west at 63 Maiden Lane.

Energy Production/Interconnection

Question No. 11

Have electrical loss assumptions been factored into the rated output of the facility? Provide the output of the facility in megawatts AC at the point of interconnection.

Response

Yes, electrical loss assumptions have been factored into the rated output of the facility. The wire size was selected to provide a less than 3% voltage drop at the AC output of the inverters in the solar field and less than 0.5% voltage drop on the DC side. The rated output of the solar generator is 1.215 MW-AC.

Question No. 12

What is the DC/AC ratio of the proposed project? What project design considerations were used to minimize losses associated with DC/AC ratio?

Response

The DC/AC ratio is 1.22 for this Project. The inverter manufacturer recommends loading the inverters with a 1.20 to 1.35 DC/AC ratio. Due to the fact that the system falls within this range, losses due to the DC/AC ratio are not expected.

Question No. 13

Referring to Petition p. 30, explain why a solar panel orientation with a 30 degree tilt was selected for this facility. Is the project designed to maximize annual energy production?

Response

The 30 degree tilt was selected to maximize annual energy production from the system. This tilt angle was selected by taking into account the available array area, the shading effect of the surrounding tree line, and the potential for inter-row shading. If a lower tilt angle was utilized, the annual energy output would be reduced due to the less favorable tilt angle. If a higher tilt angle was utilized, there would be either increased inter-row shading (which would negatively impact production) or the interrow spacing would need to be increased (which would increase shading losses from the surrounding tree line and/or increase the Project footprint).

Question No. 14

What is the projected capacity factor (expressed as a percentage) for the proposed project?

Response

The capacity factor for the Project is 14.7%.

Question No. 15

What is the efficiency of the photovoltaic modules?

Response

The efficiency of the 340 watt ("W") photovoltaic module is 17.14%.

Question No. 16

Would the power output of the solar panels decline as the panels age? If so, estimate the percent per year.

Response

Yes, the solar module output modestly declines with age. The estimated degradation rate of the modules is 0.5% per year. The module power output warranty states that after 25 years the output should not be less than 80.2%, which is 0.79% per year maximum degradation.

Question No. 17

What is the operational life of the facility?

Response

The operational life of the facility is expected to be a minimum of 25 years. Solar facilities have been reported to continue operation for over 40 years.

Question No. 18

Is a System Impact Study with the local electric distribution utility required for the interconnection? Does the Petitioner have an Interconnection Agreement and with whom?

Response

Eversource, the local electric distribution utility, has approved the facility interconnection and an interconnection agreement has been signed by Durham Manufacturing. A System Impact Study was not required by Eversource.

Question No. 19

Would the impact of soft shading, such as air pollution or hard shading, such as bird droppings or weather events, such as snow or ice accumulation, hail, dust, pollen, etc. reduce the energy production of the proposed project? If so, was this included in the proposed projects capacity factor and/or loss assumptions? Would any of these expose the solar panels to damage?

Response

Yes, soft shading and hard shading (e.g., snow fall) will affect the performance of the

system, however the production model which was used to estimate the kilowatt hour ("kWh") generation of the system includes allowances for these losses. These allowances are included via the use of historical ground level meteorological data which includes the effects of air pollution and historical snow and ice accumulation. In addition, soiling losses from pollen, dust, bird droppings or other hard shading by way of a derate of the DC output of the array. The solar modules are certified to UL 1703 which includes load testing and hail impact testing. The Mission Solar 340 modules are tested to withstand 117 pounds per square foot ("PSF") front and rear load as well as hail impact of 25mm at 23 meters per second.

Site Components and Solar Equipment

Question No. 20

Provide the specification sheets for the proposed inverters and solar photovoltaic panels. How are the inverters being installed at the site (i.e. concrete pads?).

Response

Technical specifications for the inverters and solar photovoltaic modules are provided in Attachment B. The inverters will be installed on steel supports set in concrete piers.

Question No. 21

Referring to Petition Site Plan SP-2, provide specifications/design for the electrical equipment.

Response

Site Plan SP-2 has been revised to show a more detailed layout of the electrical equipment. See revised site plans provided at Attachment C. Technical specifications for electrical equipment are provided in Attachment B (Sheets E-2.1, E-6.1 and E-6.2). Sheets E-

2.1, E-6.1 and E-6.2 are still under review and have not yet been sealed.

Question No. 22

Referring to Petition p. 5, is it feasible to use several large inverters instead of 25 inverters? Describe the mounting equipment/method for the 25 inverters (e.g. concrete pads, posts).

Response

The use of 25 small inverters provides several benefits over a few large inverters including:

a. Reduced inverter cost;

b. Multiple Maximum Power Point Tracking units on each inverter greatly reduces effects of shading on array;

c. Increased system availability due to only a small portion of the array being inoperable while an inverter is out of service;

d. Increased system availability due to ability to quickly replace a single inverter instead of waiting for manufacturer service technicians and replacement parts for repairs to large inverters; and

e. Availability of 1000V DC string lengths combined with 480V AC output. Large central inverters with 480V AC output are typically rated at 600V DC which increases system cost.

The inverters will be mounted on posts set in concrete.

Question No. 23

Referring to Petition p. 5, explain the interconnection "front service" and "rear service" terminology.

Response

There are two electrical interconnection points on the at the Durham Manufacturing facility. The "front service" is located in the front portion of the primary building, closest to Main Street. The "rear service" is located in the rear portion of the primary building.

Question No. 24

Referring to Site Plan DN-1, what is the anticipated length of the racking posts and to what depth would the posts be driven into the ground?

Response

The anticipated length of the racking posts is 16 feet, six inches long, with 10 feet embedment in the ground.

Question No. 25

What is the design wind speed of the solar panel mounts? How are the panels adhered to the mount? What prevents the solar panels from separating from either the racking or the foundation during high winds?

Response

The design wind speed of the module mounting system is 115 MPH. The panels are mounted to the racking through the mounting holes on the rear frame of the modules by using a serrated flange head nut and bolt. There are 4 sets of nuts and bolts per module. The entire racking system is designed to withstand the 115 MPH design wind rating and utilizes the appropriately sized bracing and fastening systems to prevent separation under these conditions.

Question No. 26

Has any analysis been conducted to determine structural limits of snow accumulation on the solar panels and steel support structures, assuming heavy, wet snow and or ice?

Response

Yes, the racking system is design to withstand 30 PSF of ground snow load, which is the requirement for this location and project type under the 2012 International Building Code.

Question No. 27

Referring to Petition Environmental Report p. 16, p. 29, and Site Plan DN-1, please clarify the following

a. What is the overall height of the solar panels - 9.5 feet or 8.0 feet above grade?

b. What is the total number of solar panels to be installed at the site?

c. Would differing figures alter the photo-simulation provided on p. 30? If so, please modify accordingly.

Response

a. The overall height is nine feet, nine inches. See revised Site Plan DN-1 (Attachment C).

b. The total number of solar panels to be installed at site is 4,194.

c. The photo-simulation provided in the Environmental Assessment depicts the facility as proposed, including a total of 4,194 panels.

Question No. 28

Site Plan DN-1 shows 13-foot spacing between the panel rows. Can this project footprint be minimized by decreasing spacing between the panel rows and/or by modifying the solar panel tilt angle?

Response

The 13-foot spacing between rows cannot be reduced without negatively impacting the kWh output of the facility. If the spacing is reduced while maintaining the 30 degree tilt angle,

the rows of modules would cause shading on each other and would reduce the system output. If the tilt of the modules was to be reduced to allow for decreased inter-row spacing, the reduction in tilt would cause a reduction in system output.

Question No. 29

Can the footprint of the facility be reduced by using a higher wattage solar panel?

Response

It would not be practicable to reduce the footprint of the facility by using a higher wattage solar panel. A 340 W, high-efficiency monocrystalline module was selected because it provides the most favorable balance of efficiency and price.

The majority of commercially available solar modules fall into 3 categories:

- Polycrystalline modules ranging from 315-330 W (lowest cost and greatest availability)
- Monocrystalline modules ranging from 330-340 W (higher efficiency, high availability, generally considered best value of efficiency and cost)
- Monocrystalline PERC modules ranging from 355-365 W (premium pricing and limited availability, generally reserved for use on projects where balance of system component costs are very high, such as carport structures).

There are a few ultra-high efficiency modules produced by a select few manufacturers such as LG and Sunpower, however they have limited availability and come at a substantial cost premium and are not typically used on commercial scale ground mount projects because the costs outweigh the benefits. The selected 340 W monocrystalline module was utilized due to the combination of high efficiency and value. Any reduction in footprint that may be achieved through the use of ultra-high efficiency modules would be modest compared to the increase in price.

Question No. 30

What is the color of the solar panels? Are other colors available? Is the glass casing reflective? Are there solar panels available with non-reflective glass? If so, what are the costs and benefits of each type?

Response

The module frames are a light grey anodized aluminum alloy and the monocrystalline solar cells on the face of the module are very dark blue, almost black. The front glass of the modules features an anti-reflective coating.

Public Safety

Question No. 31

Referring to the Connecticut Airport Authority's correspondence dated April 2, 2018, please provide the following:

a. What is the distance/direction to the Maplewood Farm Airport?

b. Would glare from the solar arrays have any impact on air navigation?

c. Has a glare analysis been conducted? If not, under what circumstances would a glare analysis be required by the Federal Aviation Administration?

d. Has the petitioner filed a Notice of Proposed Construction or Alteration (FAA Form 7460-1) directly to the Federal Aviation Administration for this site?

Response

a. Maplewood Farm Airport is approximately 1.73 miles to the southwest of the Project site.

b. & c. Glare from the solar arrays will not have an impact on air navigation. A Solar

Glare Hazard Report was prepared with respect to the Project by Pure Power Engineering, Inc. and has been attached as Attachment D. The results of the glare study show no potential for glare along the flight path from the southeast and a low potential for temporary after-image along the flight path form the northwest. The results of the glare study pass FAA requirements applicable to solar installations on airport properties. As noted above, the Project site is 1.73 miles from the nearest airport.

d. Yes. Notices were submitted to the FAA on April 13, 2018 to cover both construction activities and the as-built project (see Attachments E-1 and E-2 for notices with respect to the corner of the Project area closest to Maplewood Farm Airport). On April 30, 2018, the FAA issued a determination of No Hazard to Air Navigation with respect to both the completed Project (see Attachment F-1) and the post-driving equipment to be used temporarily during the construction process (see Attachment F-2).

Question No. 32

With regard to emergency response:

a. Is outreach and/or training necessary for local emergency responders in the event of a fire or other emergency at the site?

b. How would site access be ensured for emergency responders?

c. In the event of a brush or electrical fire, how would the Petitioner mitigate potential electric hazards that could be encountered by emergency response personnel?

d. Could the entire facility be shut down and de-energized in the event of a fire? If so, how and by whom?

Response

a. Training for first responders will be provided so that they are informed of proper

procedures in the event of a fire or emergency.

b. Keys to the site will be housed in a Knox Box or equivalent Rapid Entry System, as required by the Durham Fire Marshall.

c. In the event of a fire, the array can be de-energized to the point of the inverters by shutting off the system disconnects adjacent to Durham Manufacturing's building or by shutting of the inverter breakers located in the electrical panels on the southeast portion of the array field.

d. In the event of a fire, the array can be de-energized to the point of the inverters by shutting off the system disconnects adjacent to Durham Manufacturing's building or by shutting of the inverter breakers located in the electrical panels on the southeast portion of the array field. The disconnects could be operated by emergency responders, the utility, or Durham Manufacturing personnel.

Environmental

Question No. 33

Referring to Petition p. 9, what Department of Energy and Environmental Protection permit would require further review of potential impacts to the slimy sculpin? Has additional review with DEEP occurred? Are there DEEP records of the slimy sculpin within Ball Brook?

Response

The Stormwater General Permit and Army Corps of Engineers Connecticut General Permit require a Natural Diversity Data Base ("NDDB") review. DEEP's February 19, 2018 NDDB Determination letter (No. 201800297) referred the Project's Stormwater General Permit to the DEEP Fisheries Division. Brian Murphy, Senior Fisheries Habitat Biologist, was subsequently contacted for further comment on the proposed solar facility and Mr. Murphy

requested an on-site meeting to better assess the proposed activity relative to this cold-water fish.

On March 21, 2018 Mr. Murphy and APT personnel participated in a field meeting that primarily focused on the proposed utility crossing and associated temporary impacts to Ball Brook. During the field meeting, additional protective measures were discussed, including measures to avoid sediment impacts to the brook associated with construction of the utility crossing. Mr. Murphy indicated that the Fisheries Division did not have any slimy sculpin sampling records from Ball Brook, but due to the proximity of the confluence with Hersig Brook, that the Fisheries Division requests that any in-stream activities be performed in a manner to avoid potential downstream impacts that could adversely affect slimy sculpin. Mr. Murphy's comments have been addressed with the revisions to the project site plans provided at Attachment C. The revised site plans were provided to Mr. Murphy on May 2, 2018, and on May 3, 2018 Mr. Murphy confirmed that DEEP has no outstanding fisheries related concerns relative to the Project. See Attachment G.

Question No. 34

Did the Petitioner examine the possibility of installing an overhead utility line from the solar field to the DMC building to avoid direct impacts to Ball Brook?

Response

Yes, the option of an overhead utility line was evaluated, however it was determined that it would be cost prohibitive due to the requirement of multiple medium voltage transformers to step up the voltage from 480V to 4 kV or 13 kV for the overhead lines and the step the voltage back down for the 480V interconnect. In addition, while the overhead lines would have eliminated the need to trench through Ball Brook, it would have required cutting a wide utility corridor to prevent damage to the overhead transmission lines by trees.

Question No. 35

Describe the length and construction method of the coffer dams proposed in Ball Brook.

Response

The length of the utility crossing of Ball Brook is approximately thirty (30) feet. It is expected that sand bags would be used by the contractor to construct the coffer dams. See Sheet EC-2 of the revised site plans provided at Attachment C.

Question No. 36

Referring to the Environmental Assessment p. 5, was any further analysis done to determine if a vernal pool exists in Wetland 3? Referring to Site Plan EC-1 describe the vegetation that will be cleared along the west side of Wetland 3.

Response

An inspection of Wetland 3 was performed by Eric Davison, Wildlife Biologist and Professional Wetland Scientist with Davison Environmental, LLC on April 27, 2018. Several newly hatched wood frog (Rana sylvatica) tadpoles were observed in Wetland 3, which was found to contain approximately 2 feet of inundation. Therefore, Wetland 3 is considered to support vernal pool habitat. No vegetation clearing has been proposed within the 100-foot vernal pool envelope ("VPE").

The proposed solar facility fence would be located approximately 62 feet from Wetland 3 and the silt fence would be installed approximately 50 feet from Wetland 3. Although these features would be located within the VPE, the existing habitat of maintained cool season turf grass and Christmas trees presently existing within the VPE does not provide optimal terrestrial habitat for wood frogs. Therefore, although a portion of the solar facility would exist in the VPE, such features would exist in an area that has already been subject to disturbance and

cultivation. Impacts to the breeding population of wood frogs utilizing Wetland 3 would be de minimis relative to existing conditions. Short-term impacts to migrating adult or emigrating metamorph juvenile wood frogs could occur during construction. However, with implementation of the proposed isolation barrier (silt fence) and vernal pool protection program provided as Appendix G to the Environmental Assessment, potential impacts to wood frogs and the vernal pool breeding habitat supported by Wetland 3 would be avoided during construction activities.

Question No. 37

Is the project located within a DEEP-designated aquifer protection area?

Response

No.

Question No. 38

Are residential areas abutting the site served by private wells? Assuming some abutting areas are served by private wells, can vibrations caused by the installation of the racking posts cause sediment buildup in the wells? What measures will the petitioner undertake to ensure there is no disruption to well water flow or water quality?

Response

Yes. Neighboring properties utilize private, potable wells.

The Petitioner does not anticipate vibrations associated with driving the racking posts into the site soils will result in adverse impacts. Based on a February 2018 geotechnical data report prepared by GeoInsight, Inc. (see Attachment H), subsurface conditions at the site generally consist of a native alluvium deposits overlying either native pond bottom or native till deposits. The depth of alluvium deposits ranges from approximately two feet to greater than 15

feet and was generally found to be a heterogeneous mixture of fine to coarse sand, silt and gravel, with some portions exhibiting a clay fraction. The relative density of the deposit was variable, ranging from very loose to medium dense. The depth of the native pond bottom deposit, which was generally encountered directly below topsoil or the native alluvial deposit, ranged from approximately five feet to greater than 15 feet below grade, and the thickness of this deposit ranged from approximately four feet to greater than 11 feet. The pond bottom deposit varied from soft to stiff silt and clay. A native till deposit was encountered in portions of the site below the overlying alluvium or pond bottom deposits. The native till layer varied from medium dense to very dense, fine to medium sand with some to trace amounts of gravel and silt.

Based on this data, inserting the posts into these soil conditions is not expected to cause excessive vibrations and would therefore not represent a concern for causing sediment releases to nearby wells. Although the specific construction of these wells are unknown, it is likely that any potable drinking water wells are installed within the bedrock aquifer and not in the overburden material. As a result, no disruption to well water flow or water quality is anticipated and therefore no special precautions are warranted.

Question No. 39

Are the racking posts galvanized steel? If so, if the posts extend into the water table, would there be oxidation and the release of potentially hazardous substances into groundwater such as zinc?

Response

While buried metal infrastructure has potential to contribute to zinc levels in surrounding soils, it is unlikely that the buried posts associated with the Project would raise local zinc concentrations substantially in soil or groundwater. The portion of galvanized post most exposed

to oxidation would be that section extending from the ground surface to three or four feet down into underlying soil. Below a few feet down, the soil (and groundwater) quickly becomes deficient in oxygen and oxidation-reduction reactions are inhibited. Zinc coatings that are exposed to air and weather will oxidize, however this occurs very slowly (often over 75 years or more) before making its way into surface soils. After this time, the metallic zinc is completely consumed and barring any other reactions, would be present in the soil as zinc oxide (which is used routinely in sunscreen, among other products). There is minimal vertical movement of zinc in the soil. Similarly, zinc concentrations in surface soil influenced by corrosion decrease with distance horizontally from the steel post.

Question No. 40

Is any portion of the facility within the limits of the Durham Meadows Superfund Site? If so, are any special procedures required for any project dewatering or excavation activities?

Response

The eastern boundary of the Durham Meadows Superfund Site is Ball Brook, so the Project Area (the former tree farm) falls outside the limits of the Superfund Site. To accommodate the electrical interconnection, all digging on the west side of Ball Brook will be on the southern end of the property. The soils in this area have previously been tested for Volatile Organic Compounds ("VOCs") and concentrations were within regulatory limits.

Any soil dug as part of underground trenching and not returned to the excavation will be field tested for VOCs by Durham Manufacturing's environmental consultants. Excess soil will be disposed of appropriately.

Question No. 41

Would glare from the solar panels attract birds (ex. appear as water) and create a collision

hazard?

Response

No. The solar panels are coated with an anti-reflective coating, thus minimizing this potential.

Question No. 42

Referring to Site Plan DN-1, what is the distance between the bottom fence edge and ground level? Could the fence be designed so that bottom edge of the fence allows for small animal movement?

Response

The revised Site Plans, provided in Attachment C, have been modified to reflect a four to six inch gap between the ground surface and the bottom of the fence to allow for small animal movement. See Sheet DN-1.

Construction Questions

Question No. 43

Referring to Petition Environmental Assessment p. 1, site disturbance in the solar field area will total 6.4 acres. Is initial site disturbance (tree clearing, grubbing, grading, excavation, filling and dewatering) occurring in phases less than five acres? Could construction be phased to achieve site stabilization in increments less than five acres? (Note: Connecticut Department of Energy and Environmental Protection "DEEP" General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities states that, "Whenever possible, the site shall be phased to avoid the disturbance of over five acres at a time…")

Response

The nature of construction of solar facilities does not lend itself to work in discrete five acre increments. Once posts are set for a row the racking begins, followed by the module installation and wiring, so there is a constant flow of construction through the site. In this case, while this site is greater than five acres, there is a high point in the middle of the site splitting it into essentially two drainage areas of 3.2 acres each. The construction sequence set forth on Sheet DN-2 of the revised site plans (Attachment C) details a phased approach for the contractor to ensure that the site is protected by erosion and sedimentation control devices prior to any disturbance on site.

Question No. 44

Can the project be constructed in accordance with the attached guidance from Department of Energy and Environmental Protection entitled, "Stormwater Management at Solar Farm Construction Projects, dated September 8, 2017"?

Response

The project will be constructed in accordance with DEEP's Stormwater General Permit. Recommendations from DEEP's Stormwater Management at Solar Farm Projects guidance will be implemented where feasible.

Question No. 45

Would a General Permit from the Department of Energy and Environmental Protection, or other type of permit, be required? If so, when would the permit filings occur?

Response

This project is required to comply with the DEEP Stormwater General Permit. As such, a Storm Water Pollution Control Plan ("SWPCP") has been developed for the project in

accordance with the Stormwater General Permit requirements. An application for the Stormwater General Permit along with the SWPCP was submitted to DEEP on March 28, 2018. The utility line stream crossing will be subject to a self-verification form under the Army Corps of Engineers Connecticut General Permit. The self-verification will be submitted after Council approval of the Petition.

Question No. 46

The Petition Environmental Assessment states site soils are in Hydrologic Soil Group C. What special erosion and sedimentation controls are required for these types of soils to ensure non-migration of soil fines out of the project area? How will the site and stream trench area be stabilized post-construction to ensure soil fines are not running off within stormwater?

Response

No special erosion and sedimentation controls are required. As detailed in the Site Plans (see sheets EC-1 through EC-3) a perimeter silt fence will be installed to ensure non-migration of soil fines out of the project area. The site will be stabilized with a seed mix and be monitored per the SWPCP and the requirements of the Stormwater General Permit. Until such time that the site is deemed permanently stable all erosion and sedimentation controls shall remain in place. As a result of the communications with DEEP, APT has included in the revised Site Plans sheet DN-4 which outlines the Ball Brook Protection and Restoration Program.

Question No. 47

In regards to the temporary soil stockpile on the west side of Ball Brook, can another location be used or additional protective measures deployed to ensure stockpiled materials do not impact the brook?

Response

The temporary soil stockpile is located approximately fifty feet (50') away from Ball Brook and will be ringed with a double row of Silt Fence per the detail in the Site Plans. Additionally, there is another Silt Fence located at the Limits of Disturbance before the brook. The Ball Brook Protection and Restoration Program (see Sheet DN-4 of Attachment C) will include an Environmental Monitor field review of erosion and sedimentation control measures to ensure proper installation and maintenance, which will also include the temporary soil stockpile area. These additional measures will result in proper protection of Ball Brook.

Question No. 48

The Petition site plans do not show any topographic information. What will be the final grade and slope of the solar field area?

Response

Please see Sheet EX-1 of the revised site plans provided at Attachment C, which now show the existing grades. Please also see Sheet SP-1 of Attachment C, which notes that existing grades are to be maintained and that only smoothing of the ground is expected in some areas of the site.

Question No. 49

Estimate the amounts of cut and fill in cubic yards for site construction.

Response

Existing grades will remain in the final condition, subject to modest amounts of smoothing to fill in holes left by Christmas tree removal. See Sheet SP-1 of the revised site plans provided at Attachment C. There will be no net cut or fill associated with site construction activities.

Question No. 50

How would racking posts be driven into the ground? In the event that bedrock is encountered, what methods would be utilized for installation?

Response

The racking post are driven with a specialized post driving machine. If there is refusal, there are other footing options available including a concrete pier, boring into bedrock and setting the post in concrete, or fixing a base plate to the post and fastening it to bedrock utilizing rock anchors. Based upon the results of the geotechnical analysis (see Attachment H), Durham Manufacturing does not expect to encounter bedrock on this site.

Question No. 51

Referring to Sheet SP-1, a note specifies a planting area along the north side and northwest side of the project site. Besides relocated evergreen trees, what other types of vegetation would be installed? Would existing, mature vegetation remain between Maiden Lane and the north perimeter fence?

Response

The existing mature vegetation between Maiden Lane and the north perimeter fence will remain in place and a combination of relocated and new evergreen plantings will be installed to provide supplemental screening.

Maintenance Questions

Question No. 52

Would snow accumulation on the solar panels affect the output of the facility? Under what circumstances would snow be removed? Describe snow removal methods and site access.

Response

The estimated annual output takes into account historical meteorological data which includes snow fall. If in a particular year, the snowfall is greater than the historical average, there will be increased output loss due to snow, if the snowfall is less than the historical average there would be reduced system output loss due to snow. Due to the 30 degree tilt of the array and the 3' ground clearance, snow will shed naturally and mechanical snow removal will not be required.

Question No. 53

Would the installed solar panels require regular cleaning or other, similar, maintenance? How would this be accomplished and at what intervals? Would any chemicals be used or only water? Would this maintenance activity have any impacts to water quality?

Response

Due to the tilt of the array and smooth glass surface of the modules, normal rainfall is typically sufficient to keep the modules clean, therefore it is typically not cost effective to perform regularly scheduled module cleaning. In the event the modules became heavily soiled and it was determined that the system would benefit from cleaning, the modules would be cleaned with plain water and a soft, non-marring scrub brush. No additional chemicals would be used and there would be no impact to water quality. This would occur on an as-needed basis and not at regularly scheduled intervals.

Question No. 54

What is the post-construction vegetative cover for the solar array area and area outside of the perimeter fence? Describe the type and frequency of vegetation management for the site, including areas inside and outside of the perimeter fence.

Response

As shown on Sheets SP-1 and SP-2 of the revised site plans provides as Attachment C, post-construction vegetative cover will be a combination of existing groundcover that was not disturbed during construction and new turf-type ground cover that will be applied via hydroseeding. Specifically, vegetative cover for the area inside the perimeter fence would consist of turf grass. The area outside the perimeter fence would include the existing, native vegetation to the extent possible, with additional evergreen plantings for supplemental screening to be provided along the northern edge of the Project area along Maiden Lane.

It is anticipated that the turf grass within the perimeter fence area will be mowed approximately twice per year. See Environmental Assessment, at 18. The mature forest existing outside the perimeter fence will require minimal, if any, maintenance. The area outside the perimeter fence that must remain clear of mature trees (to avoid shading of the modules) will be mowed on a rotating basis every four to seven years. See Environmental Assessment, at 24.

Respectfully submitted,

Durham Manufacturing Company

By Emilee Mooney Scott

Emilee Mooney Scott
Earl W. Phillips, Jr.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597
(860) 275-8200
Its Attorneys

Attachment A

Connecticut
still revolutionary

Department of Economic and Community Development

State Historic Preservation Office

February 26, 2018

Mr. Michael Libertine
Director of Siting and Permitting
All-Points Technology Corporation
3 Saddlebrook Drive
Killingworth, CT 06419

Subject: Proposed Solar Facility
201 Main Street
Durham, Connecticut

Dear Mr. Libertine:

The State Historic Preservation Office (SHPO) has reviewed your request for information concerning the potential effects to historic properties associated with the referenced project. SHPO understands that the proposed solar voltaic facility will entail the construction of 4,194 340W ground mounted solar arrays and ancillary improvements (e.g. perimeter fencing) within an area encompassing approximately 6 acres. The proposed activities are under the jurisdiction of the Connecticut Siting Council and are subject to review by this office pursuant to Section 106 of the National Historic Preservation Act (NHPA) and the Connecticut Environmental Policy Act (CEPA).

201 Main Street is located within the boundaries of the National Register of Historic Places (NR) listed Main Street Historic District (NR# 86002837, Listed 09/04/1986). However, it is listed as a non-contributing resource. The rear of the parcel, where the proposed solar facility is to be located, is adjacent to several contributing resources to the district, including the James Curtis House (1737-1761, Inventory Number 11) and the Curtis-Coe House (1745, Inventory Number 12).

Additionally, the same portion of the property was found during a pedestrian survey to be largely undisturbed, and contain sandy-loamy soils, and was in close proximity to two bodies of water, namely Allyn and Hersig Brooks. This type of environmental setting tends to be associated with pre-contact Native American settlement. Based on the environmental characteristics of the project site, it is SHPO's opinion that the Area of Potential Effect has an elevated potential to contain significant archaeological and cultural resources that would be impacted by the proposed project.

We are therefore requesting that a Phase IB professional cultural resources assessment and reconnaissance survey of the 6 acres surveyed during the Phase IA assessment be completed prior to construction. Subsurface testing should assess all areas of anticipated ground disturbance that are considered to have a moderate/high sensitivity for containing significant archeological deposits, unless sufficient research or fieldwork documents that this level of effort is unwarranted. All work should be in compliance with our *Environmental Review Primer for Connecticut's Archaeological Resources* and no construction or other project-related ground disturbance should be initiated until SHPO has had an opportunity to review and comment upon the requested survey. A list of qualified consultants is attached for your convenience.

This office appreciates the opportunity to review and comment upon this project. These comments are provided in accordance with the Connecticut Environmental Policy Act and Section 106 of the National Historic Preservation Act. For additional information, please contact Marena Wisniewski, Environmental Reviewer, at (860) 500-2357 or marena.wisniewski@ct.gov.

Sincerely,

Mary B. Dunne

Mary B. Dunne
Deputy State Historic Preservation Officer

TO WHOM IT MAY CONCERN

The following archaeologists, as known to us, meet the professional qualification guidelines of the National Park Service (36 CFR 61):

ACS [Archaeological Consulting Services]
Attn: Dr. Gregory Walwer
10 Stonewall Lane
Guilford, CT 06437-2949
Phone: 203-458-0550
Fax: 203-672-2442
acsinfo@yahoo.com

American Cultural Specialists LLC
Attn: Lucianne Lavin, Ph.D.
755 Riverside Avenue
Torrington, CT 06790
Phone: 860-626-8210
Fax: 877-903-0269
Luci.ACS@pobox.com

Archaeological & Historical Services
Attn: Ms. Mary Harper
PO Box 543
Storrs, CT 06268
Phone: 860-429-2142
Fax: 860-429-1724
mharper@ahs-inc.biz

Aspetuck Landways
Attn: Dr. Stuart A. Reeve
PO Box 11024
Greenwich, CT 06831
Phone: 203- 470-7874
Sareeve2000@yahoo.com

Marc L. Banks, Ph.D., LLC
11 Lincoln Lane
Weatogue, CT 06089
Phone: 860-658-7482
Fax: 860-658-7482
banksmarc@sbcglobal.net

BL Companies
Attn: Mr. Jonathan Libbon
355 Research Parkway
Meriden, CT 06450
Phone: 717-943-1672
jlibbon@blcompanies.com

Gray & Pape Inc.
Attn: Mr. Patrick O'Bannon
60 Valley Street, Suite 103
Providence, RI 02909
Phone: 401-273-9900
Fax: 401-273-9944
pobannon@graypape.com

Hartgen Archaeological Associates Inc.
Attn: Mr. Matthew Kirk
1744 Washington Avenue Ext.
Rensselaer, New York 12144
Phone: 518-283-0534
Fax: 518-283-6276
mkirk@hartgen.com

Heritage Consultants LLC
Attn: Nicholas Griffis, M.A.
P.O. Box 310249
Newington, CT 06131
Phone: 860-667-3001
Fax: 860-667-3008
info@heritage-consultants.com

Historical Perspectives Inc.
Attn: Ms. Cece Saunders
Historical Perspectives, Inc.
P. O. Box 529
Westport, CT 06881
Phone: 203-226-7654
cece@historicalperspectives.org

Sarah L Holmes, PhD
31 Mistuxet Ave
Mystic, CT 06355
Phone: 860-501-1446
slh@att.net

Louis Berger Group Inc.
Attn: Dr. Hope Luhman, Cultural Resources
20 Corporate Woods Boulevard
Albany, NY 12211
Phone: 518-514-9303
Fax: 518-514-0731
hluhman@louisberger.com

JMA, a CCRG Company
Attn: Mr. Martin Dudek
410 Great Pond Road, Suite B-14
Littleton, MA 01460
Phone: 978-793-2579
mdudek@johnmilnerassociates.com

Public Archaeology Laboratory Inc.
Attn: Ms. Deborah Cox
26 Main Street
Pawtucket, RI 02860
Phone: 401-728-8780
Fax: 401-728-8784
dcox@palinc.com

Public Archaeology Survey Team Inc.
Attn: Ms. Mary Harper
PO Box 209
Storrs, CT 06268
Phone: 860-429-1723
Fax: 860-429-9454
mharper@past-inc.org

R. Christopher Goodwin & Associates, Inc.
Attn: Jeffrey H. Maymon
241 East 4th Street, Suite 100
Frederick, Maryland 21701
Phone: 301-694-0428
Fax: 301-695-5237
jmaymon@rcgoodwin.com

Raber Associates
Attn: Dr. Michael S. Raber
81 Dayton Road, PO Box 46
South Glastonbury, CT 06073
Phone: 860-633-9026
Fax: 860-633-9026
msraber@aol.com

Cosimo Sgarlata, Ph.D.
1 Roscoe Street
Norwalk, CT 06851
Phone: 203-847-5882
Sgarlata@wcsu.edu

This information updates and supersedes all previous material provided by the State Historic Preservation Office with respect to the identification of archaeological consultants. Further, this list has been arranged alphabetically; no preferential rating or evaluation should be inferred. The State Historic Preservation Office does not recommend, endorse, or assume responsibility for the quality of work for any individual or firm on this list, nor is there any guarantee, implicit or implied, that any work product produced by those on this list will necessarily meet federal and state requirements.

At its discretion, the State Historic Preservation Office may remove consultants from its informational list if no work has been undertaken in Connecticut over a three year period.

For further information please contact Catherine Labadia, Staff Archaeologist, at catherine.labadia@ct.gov

Revised 4/15

Attachment B

MSE Mono 72

High Power Mono Module

MISSION SOLAR ENERGY

- Class Leading Output: Up to 340W power
- Advanced P-Type monocrystalline cell technology
- Certified Reliability: 3X IEC, salt mist, ammonia
- Buy American Act

Proudly assembled in the USA
Mission Solar Energy is headquartered in San Antonio, TX with module facilities onsite. Our hardworking team calls Texas home and is devoted to producing high quality solar products and services. Our supply chain includes local and domestic vendors increasing our impact to the U.S. economy.

Assembled in the USA

CERTIFICATIONS

IEC 61215/ IEC 61730/ IEC 61701
UL 1703: CSA

Independently Audited by SOLARBUYER

PowerGuard SPECIALTY INSURANCE SERVICES

*As there are different certification requirements in different markets, please contact your local Mission Solar Energy sales representative for the specific certificates applicable to the products in the region in which the products are to be used.

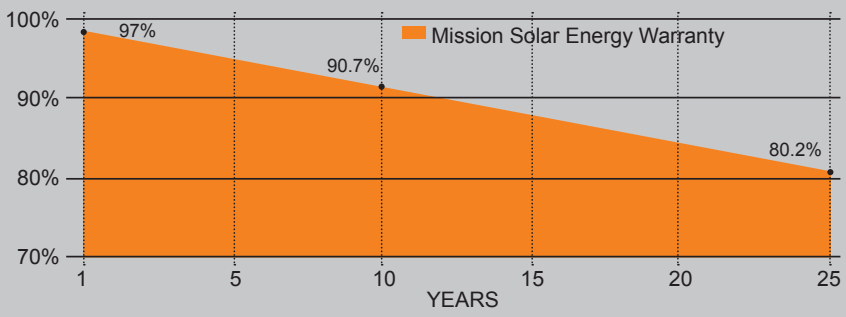
Best in class quality

Mission Solar Energy production lines are fully automated and include multiple quality checks throughout the production process including 2X EL Testing, 100% Visual inspection, and positive binning.

Proven reliability and bankability

Mission Solar Energy panels have been tested by independent testing centers to meet and exceed IEC standards. Our panels are deployed in projects across North America.

25-YEAR LINEAR WARRANTY



ELECTRICAL SPECIFICATIONS

Electrical parameters at Standard Test Condition (STC)

Module Type			MSE330SO6J	MSE335SO6J	MSE340SO6J
Power Output	Pmax	Wp	330	335	340
Module Efficiency		%	16.63	16.93	17.14
Tolerance			-0/+3%		
Short-Circuit Current	Isc	A	9.23	9.38	9.49
Open Circuit Voltage	Voc	V	46.12	46.14	46.35
Rated Current	Imp	A	8.72	8.87	8.95
Rated Voltage	Vmp	V	37.85	37.89	38.02

STC: Irradiance 1000 W/m2, Cell temperature of 25°C, AM 1.5

TEMPERATURE COEFFICIENTS

Normal Operating Cell Temperature (NOCT)	44°C (±2°C)
Temperature Coefficient of Pmax	-0.419%/°C
Temperature Coefficient of Voc	-0.315%/°C
Temperature Coefficient of Isc	0.049%/°C

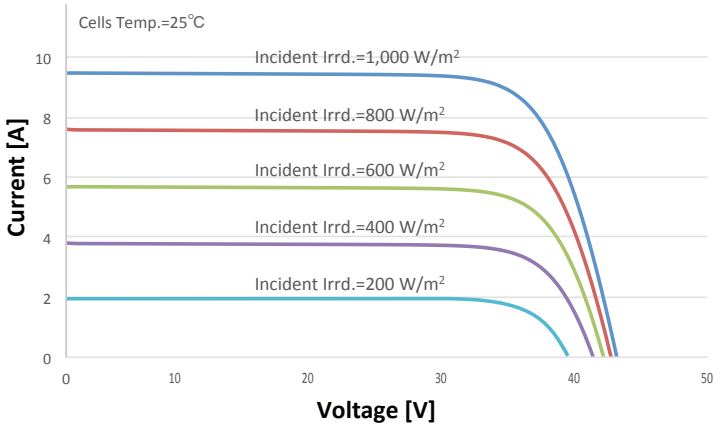
OPERATING CONDITIONS

Maximum System Voltage	1,000VDC
Operating Temperature Range	-40°C (-40°F) to +90°C (194°F)
Maximum Series Fuse Rating	15A
Fire Safety Classification	Type 1, Class C
Static Load Wind/Snow	2400Pa/5400Pa
Hail Safety Impact Velocity	25mm at 23 m/s

MECHANICAL DATA

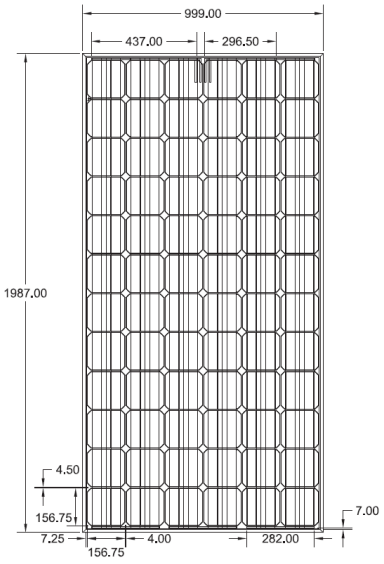
Solar Cells	P-type Mono-crystalline Silicon (156.75mm)
Cell orientation	72 cells (6x12), 4 busbar
Module dimension	1987mm x 999mm x 40mm (78.23 in. x 39.33 in. x 1.57 in.)
Weight	21.6 kg (47.6 lb)
Front Glass	3.2mm (0.126 in.) tempered, Low-iron, Anti-reflective coating
Frame	Anodized aluminum alloy
Encapsulant	Ethylene vinyl acetate (EVA)
J-Box	Protection class IP67 with 3 bypass-diodes
Cables	PV wire, 1.2m (47.24 in.), 4mm² /12 AWG
Connector	MC4 or compatible

MSE335SO6J: 335WP, 72CELL SOLAR MODULE CURRENT-VOLTAGE CURVE

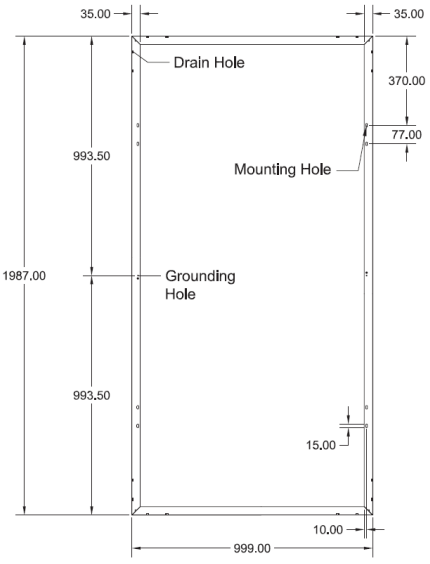


Current-voltage characteristics with dependence on irradiance and module temperature

BASIC DESIGN (UNITS: mm)



Front View



Back View

MISSION SOLAR ENERGY

Mission Solar Energy reserves the right to make specification changes without notice.

Rev. 2.02

8303 South New Braunfels Ave. | San Antonio | TX | 78235 | missionsolar.com | info@missionsolar.com | (210) 531-8600

Highly integrated

- Compact design with maximum power density achieves logistical cost savings
- 12 direct string inputs enable reduced labor and material costs
- Integrated AC and DC overvoltage protection

Maximum energy harvest

- Unique design allows for DC:AC ratios up to 150%, maximizing power throughout the day
- Six MPP trackers ensure maximum production in any application or shading situation

Cost effective

- Integrated AC and DC disconnects save material costs
- No racking required for rooftop applications, creating additional cost savings
- No PV fuses required

Fastest installation

- Built in Wi-Fi access from any mobile device makes accessing the CORE1 easy and effective
- Simplified inverter configuration and commissioning, which accelerates installation and saves installers' valuable time

SUNNY TRIPOWER CORE1

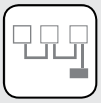
It stands on its own

The Sunny Tripower CORE1 is the world's first free-standing PV inverter for commercial rooftops, carports and ground-mount solar projects. As the next generation of SMA's industry leading Sunny Tripower product line, the CORE1 revolutionizes the commercial inverter category. Its innovative design reduces both installation time and costs to provide the highest return on investment. From distribution to construction to operation, the Sunny Tripower CORE1 enables logistical, material, labor and service cost reductions. With built-in Wi-Fi for fast commissioning, advanced communications and smart inverter grid support functions, commercial installations are up and running faster and simpler than ever.

Technical data*	Sunny Tripower CORE1 (US)	Sunny Tripower CORE1 (IEC)
Input (DC)		
Max. usable DC power (@ cos ϕ = 1)	51000 W	51000 W
DC Voltage (max)	1000 V	1000 V
Rated MPPT voltage range	500 V … 800 V	500 V … 800 V
MPPT operating voltage range	150 V … 1000 V	150 V … 1000 V
Min. DC voltage / start voltage	150 V / 188 V	150 V / 188 V
Number of independent MPP trackers / strings per MPP input	6 / 2	6 / 2
Max. operating input current / per MPP tracker	120 A / 20 A	120 A / 20 A
Max. short circuit current per MPPT / string input	30 A / 30 A	30 A / 30 A
Output (AC)		
AC nominal power	50000 W	50000 W
Max. AC apparent power	53000 VA	50000 VA
Output phases / line connections	3 / 3-N-PE	3 / 3-N-PE
Nominal AC voltage	480 V / 277 V WYE	400 V / 230 V
AC voltage range	244 V … 305 V	202 … 264 V
Rated AC grid frequency	60 Hz	50 Hz
AC grid frequency / range	50 Hz, 60 Hz / -6 Hz … +5Hz	50 Hz, 60 Hz / -6 Hz … +5Hz
Max. output current	64 A	72.5 A
Power factor at rated power / adjustable displacement	1 / 0.0 leading … 0.0 lagging	1 / 0.0 leading … 0.0 lagging
Harmonics THD	<3 %	<3 %
Efficiency		
Max. efficiency / CEC efficiency / European efficiency	>98 % / >98 % / >98 %	>98 % / >98 % / >98 %
Protection devices		
Load rated DC disconnect switch	●	●
Load rated AC disconnect switch	●	–
DC reverse polarity protection	●	●
Ground fault monitoring / grid monitoring	● / ●	● / ●
All-pole sensitive residual current monitoring	●	●
DC AFCI compliant to UL 1699B	●	–
DC surge arrester (Type II)	O	O
AC short circuit protection	●	●
AC surge arrester (Type II)	O	O
Protection class / overvoltage category (as per UL840)	I / IV	–
Protection class (as per IEC 60664-1) / overvoltage category (as per IEC 60664-1)	–	I / AC: III; DC: II
General data		
Dimensions (W / H / D)	621 mm / 733 mm / 569 mm (24.4 in x 28.8 in x 22.4 in)	621 mm / 733 mm / 569 mm (24.4 in x 28.8 in x 22.4 in)
Device weight	82 kg (180 lbs)	82 kg (180 lbs)
Operating temperature range	-25 °C … +60 °C	-25 °C … +60 °C
Storage temperature range	-40 °C … +70 °C	-40 °C … +70 °C
Audible noise emissions (full power @ 1m and 25 °C)	<60 dB(A)	<60 dB(A)
Internal consumption at night	<5 W	<5 W
Topology	Transformerless	Transformerless
Cooling Concept	OptiCool	OptiCool
Enclosure protection rating	Type 4X, 3S (as per UL 50E)	IP65 (as per IEC 60529)
Climatic category (according to IEC 60721-3-4)	–	4K4H
Maximum permissible value for relative humidity (non-condensing)	100 %	100 %
Features		
DC-Connection	Amphenol UTX PV connectors	SUNCLIX PV connectors
AC-Connection	Screw terminal	Screw terminal
LED indicators (Status / Fault / Communication)	●	●
Interface: Ethernet / WLAN / RS485	● (2 ports) / ● / O	● (2 ports) / ● / O
Data protocols: SMA Modbus / SunSpec Modbus / Webconnect	● / ● / ●	● / ● / ●
Multifunction relay	●	●
Mounting	free-standing	free-standing
OptiTrac Global Peak / Integrated Plant Control / Q on Demand 24/7	● / ● / ●	● / ● / ●
Off-Grid capable / SMA Fuel Save Controller compatible	● / ●	● / ●
Warranty: 5/10/15/20 years	- / ● / O / O	● / O / O / O
Certifications and approvals	pending: UL 1741, UL 1998, UL 1699B, IEEE 1547, FCC Part 15 (Class A & B), UL 1741 SA advanced inverter capabilities	pending: BDEW 2008, CE, IEC 61727, IEC 62109-1/2, IEC 62116, VDE 0126-1-1, VDE-AR-N 4105 additional regional certifications available on request
O Optional features ● Standard features – Not available	*preliminary data as of November 2016	
Type designation	STP50-US-40	STP50-40

Accessories

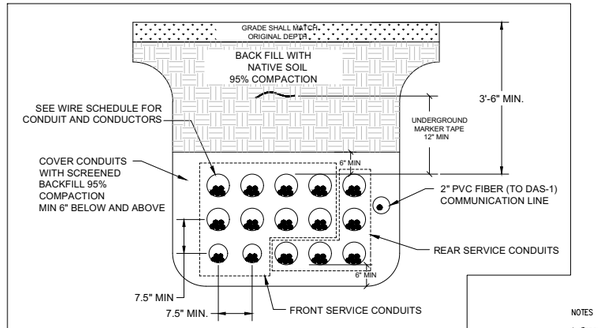
SMA Sensor Module
MD.SEN-US-40



SMA RS485 Module
MD.485-US-40

Antenna Extension Kit
EXTANT-US-40

AC Surge Protection Module Kit
AC_SPD_Kit1-10
DC Surge Protection Module Kit
DC_SPD_Kit4-10



2 UNDERGROUND TRENCH DETAIL

SCALE: NTS

NOTES

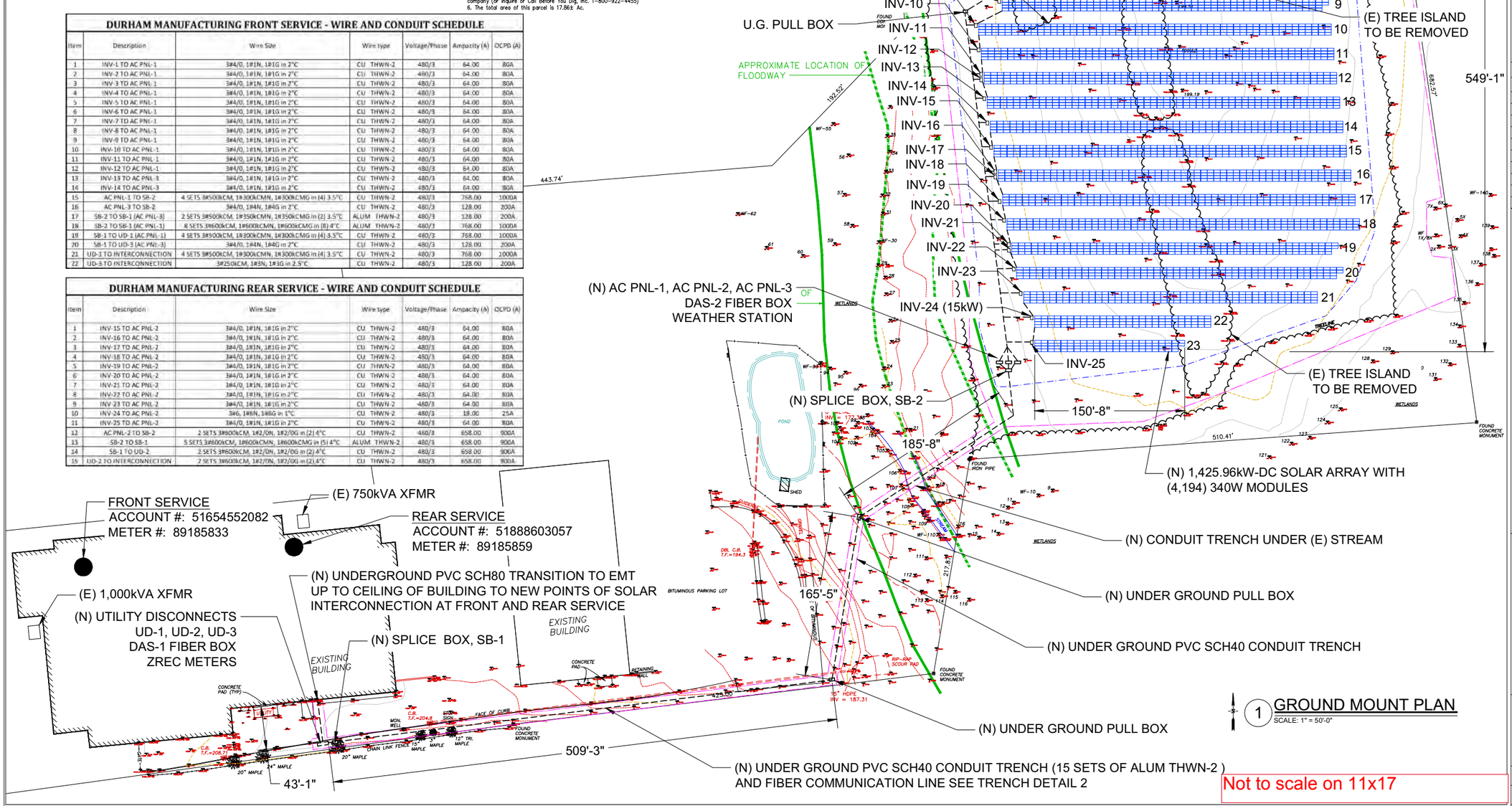
1. Topography shown is based on field locations BY: BASCOM & BENJAMIN, LLC. and related to NAVD 1988.
2. Wetlands shown flagged in the field BY: DAVISON ENVIORNMENTAL and field located BY: BASCOM & BENJAMIN, LLC.
3. The 100 YEAR FLOOD BOUNDARY and FLOODWAY as shown on F.I.R.M. #09007C0206G effective date AUG. 28, 2008. Per the FEMA FIRM study the approximate 100 year flood elevation is 183.9, NAVD 1988.
4. The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the areas, either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated on the plans. The contractor shall confirm the location of all underground utilities prior to the commencement of excavation.
5. For the location of underground Electric, Telephone, Gas, Cable TV, and other facilities of public utility companies, inquire of appropriate utility company (or inquire or Call Before You Dig, Inc. 1-800-922-4455)
6. The total area of this parcel is 17.86± Ac.

DURHAM MANUFACTURING FRONT SERVICE - WIRE AND CONDUIT SCHEDULE

Item	Description	Wire Size	Wire type	Voltage/Phase	Ampacity (A)	OCPD (A)
1	INV-1 TO AC PNL-1	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
2	INV-2 TO AC PNL-1	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
3	INV-3 TO AC PNL-1	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
4	INV-4 TO AC PNL-1	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
5	INV-5 TO AC PNL-1	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
6	INV-6 TO AC PNL-1	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
7	INV-7 TO AC PNL-1	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
8	INV-8 TO AC PNL-1	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
9	INV-9 TO AC PNL-1	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
10	INV-10 TO AC PNL-1	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
11	INV-11 TO AC PNL-1	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
12	INV-12 TO AC PNL-1	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
13	INV-13 TO AC PNL-3	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
14	INV-14 TO AC PNL-3	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
15	AC PNL-1 TO SB-2	4 SETS 3#500kCM, 1#300kCMN, 1#300kCMG in (4) 3.5"C	CU THWN-2	480/3	768.00	1000A
16	AC PNL-3 TO SB-2	3#4/0, 1#4N, 1#4G in 2"C	CU THWN-2	480/3	128.00	200A
17	SB-2 TO SB-1 (AC PNL-3)	2 SETS 3#500kCM, 1#350kCMN, 1#350kCMG in (2) 3.5"C	ALUM THWN-2	480/3	128.00	200A
18	SB-2 TO SB-1 (AC PNL-1)	8 SETS 3#600kCM, 1#600kCMN, 1#600kCMG in (8) 4"C	ALUM THWN-2	480/3	768.00	1000A
19	SB-1 TO UD-1 (AC PNL-1)	4 SETS 3#500kCM, 1#300kCMN, 1#300kCMG in (4) 3.5"C	CU THWN-2	480/3	768.00	1000A
20	SB-1 TO UD-3 (AC PNL-3)	3#4/0, 1#4N, 1#4G in 2"C	CU THWN-2	480/3	128.00	200A
21	UD-1 TO INTERCONNECTION	4 SETS 3#500kCM, 1#300kCMN, 1#300kCMG in (4) 3.5"C	CU THWN-2	480/3	768.00	1000A
22	UD-3 TO INTERCONNECTION	3#250kCM, 1#5N, 1#3G in 2.5"C	CU THWN-2	480/3	128.00	200A

DURHAM MANUFACTURING REAR SERVICE - WIRE AND CONDUIT SCHEDULE

Item	Description	Wire Size	Wire type	Voltage/Phase	Ampacity (A)	OCPD (A)
1	INV-15 TO AC PNL-2	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
2	INV-16 TO AC PNL-2	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
3	INV-17 TO AC PNL-2	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
4	INV-18 TO AC PNL-2	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
5	INV-19 TO AC PNL-2	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
6	INV-20 TO AC PNL-2	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
7	INV-21 TO AC PNL-2	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
8	INV-22 TO AC PNL-2	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
9	INV-23 TO AC PNL-2	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
10	INV-24 TO AC PNL-2	3#6, 1#6N, 1#6G in 1"C	CU THWN-2	480/3	18.00	25A
11	INV-25 TO AC PNL-2	3#4/0, 1#1N, 1#1G in 2"C	CU THWN-2	480/3	64.00	80A
12	AC PNL-2 TO SB-2	2 SETS 3#600kCM, 1#2/0N, 1#2/0G in (2) 4"C	CU THWN-2	480/3	658.00	900A
13	SB-2 TO SB-1	5 SETS 3#600kCM, 1#600kCMN, 1#600kCMG in (5) 4"C	ALUM THWN-2	480/3	658.00	900A
14	SB-1 TO UD-2	2 SETS 3#600kCM, 1#2/0N, 1#2/0G in (2) 4"C	CU THWN-2	480/3	658.00	900A
15	UD-2 TO INTERCONNECTION	2 SETS 3#600kCM, 1#2/0N, 1#2/0G in (2) 4"C	CU THWN-2	480/3	658.00	900A



1 GROUND MOUNT PLAN

SCALE: 1" = 50'-0"

Not to scale on 11x17

SEAL

HAROLD HART, P.E.
CT LIC. NO. 15587, EXP. 01-31-19

ISSUES & REVISIONS

DATE	DESCRIPTION	REV #
12/21/17	SUBMITTED FOR REVIEW	1
01/08/18	MODIFIED ONE-LINE AND ADDED THREE-LINE METERING	2
01/30/18	MODIFIED REAR SERVICE ONE-LINE AND THREE-LINE	3
02/21/18	MODIFICATIONS PER EVERSOURCE CONTINGENT APPROVAL	4
05/02/18	PERMIT SET	5

DRAWING TITLE: GROUND MOUNT PLAN

PROJECT: GROUND MOUNT ARRAY
201 MAIN STREET
DURHAM, CT 06422

PROPERTY OWNER: DURHAM MANUFACTURING

CLIENT:

PFISTER ENERGY INC.
57 GOFFLE ROAD
HAWTHORNE, NJ 07506

DRAWING ISSUE STATUS CURRENTLY: C

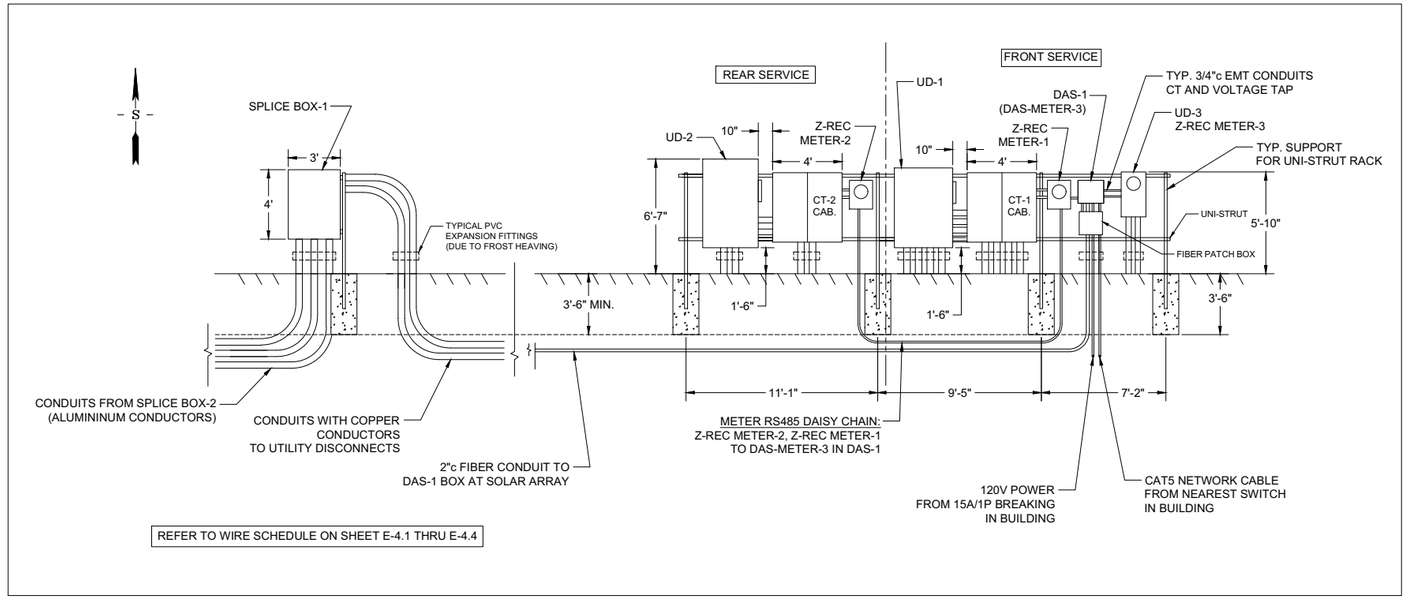
A-ISSUED FOR PRELIMINARY INFORMATION ONLY
B-ISSUED FOR REVIEW/APPROVALS
C-ISSUED FOR CONSTRUCTION PERMITS/BIDS
D-ISSUED FOR CONSTRUCTION
E-AS BUILT

PROJECT NO.

SCALE: AS NOTED

SHEET: ARCH D [24x36]

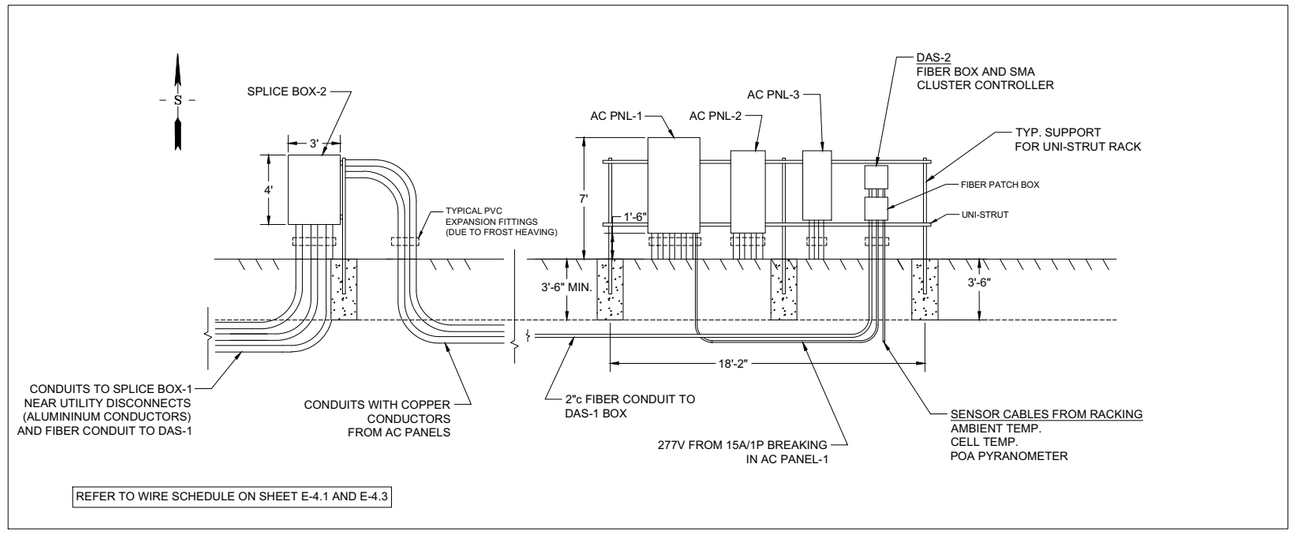
DRAWING NO. E-2.1



1 UTILITY DISCONNECTS AND METERING AT BUILDING

SCALE: 1/4"=1'-0"

NOTE: ALL CONDUITS TO BE INSTALLED BELOW FROST LINE 3'-6" MIN.



2 AC PANEL DETAIL AT GROUND MOUNT

SCALE: 1/4"=1'-0"

Not to scale on 11x17

SEAL

HAROLD HART, P.E.
CT LIC. NO. 15587, EXP. 01-31-19

ISSUES & REVISIONS

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DRAWING TITLE: EQUIPMENT DETAILS - 1

PROJECT: GROUND MOUNT ARRAY
201 MAIN STREET
DURHAM, CT 06422

PROPERTY OWNER: DURHAM MANUFACTURING

CLIENT:

PFISTER ENERGY INC.
57 GOFFLE ROAD
HAWTHORNE, NJ 07506

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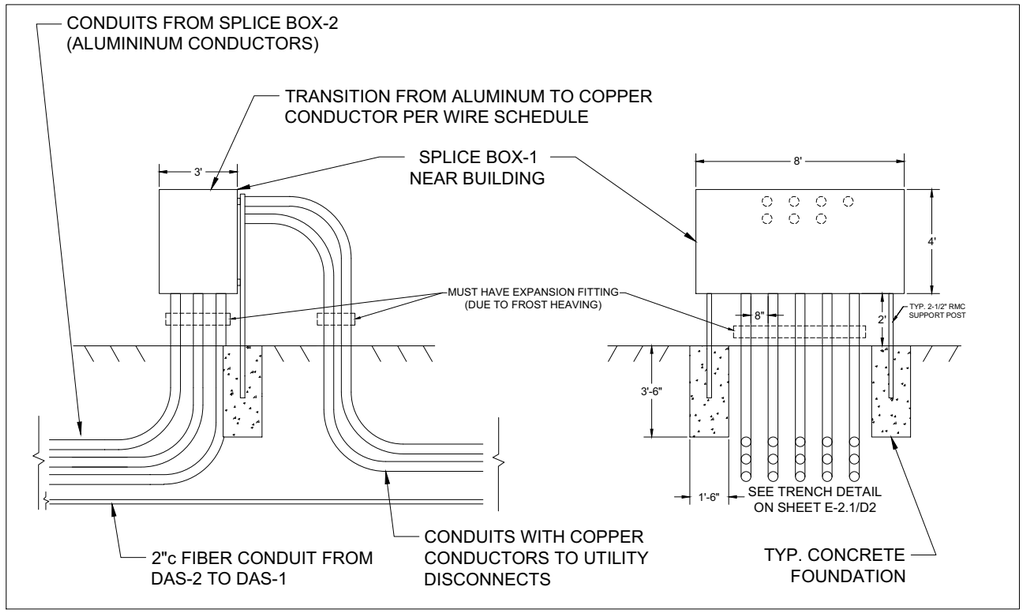
D–ISSUED FOR CONSTRUCTION
E–AS BUILT

PROJECT NO.

SCALE: AS NOTED

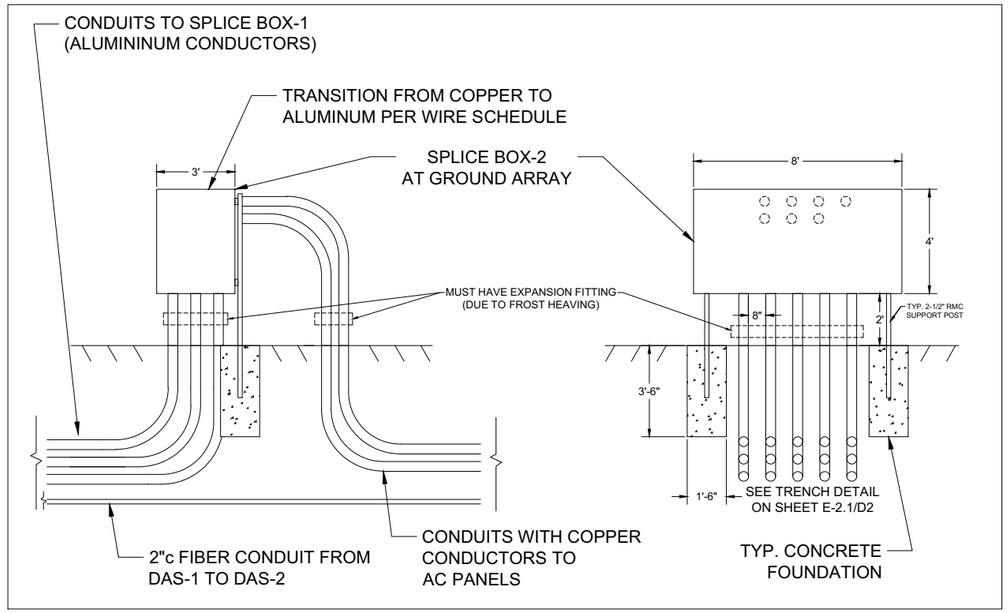
SHEET: ARCH D [24x36]

DRAWING NO. E-6.1



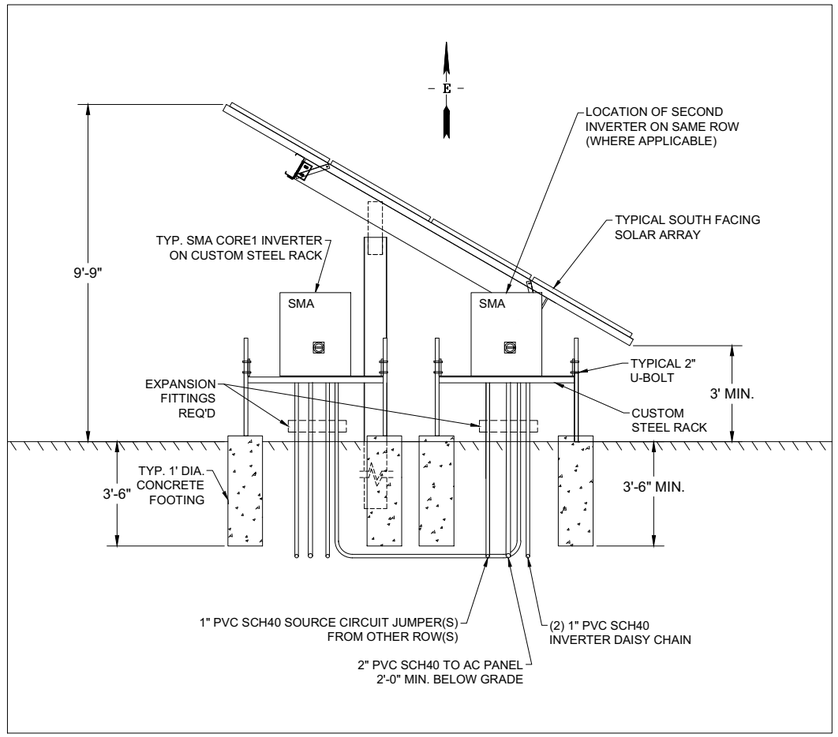
1 SPLICE BOX-1 DETAIL AT BUILDING NEAR UTILITY DISCONNECTS

SCALE: 3/8"=1'-0"



2 SPLICE BOX-2 DETAIL AT GROUND ARRAY

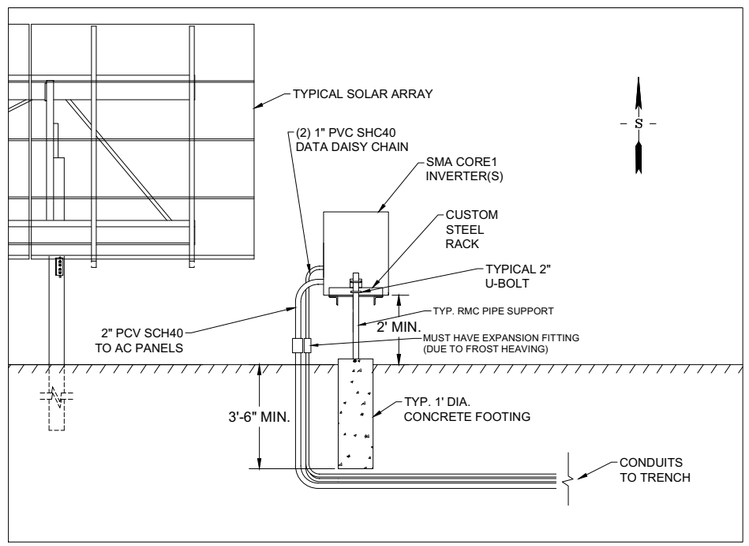
SCALE: 3/8"=1'-0"



3 INVERTER MOUNTING ON END OF EACH ROW - 3

SCALE: 1/2"=1'-0"

NOTE: ALL CONDUITS TO BE INSTALLED BELOW FROST LINE 3'-6" MIN.



4 INVERTER MOUNTING ON END OF EACH ROW - 4

SCALE: 1/2"=1'-0"

Not to scale on 11x17

SEAL

HAROLD HART, P.E.
CT LIC. NO. 15587, EXP. 01-31-19

ISSUES & REVISIONS

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DRAWING TITLE: EQUIPMENT DETAILS - 2

PROJECT: GROUND MOUNT ARRAY
201 MAIN STREET
DURHAM, CT 06422

PROPERTY OWNER: DURHAM MANUFACTURING

CLIENT:

PFISTER ENERGY INC.
57 GOFFLE ROAD
HAWTHORNE, NJ 07506

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D-ISSUED FOR CONSTRUCTION
E-AS BUILT

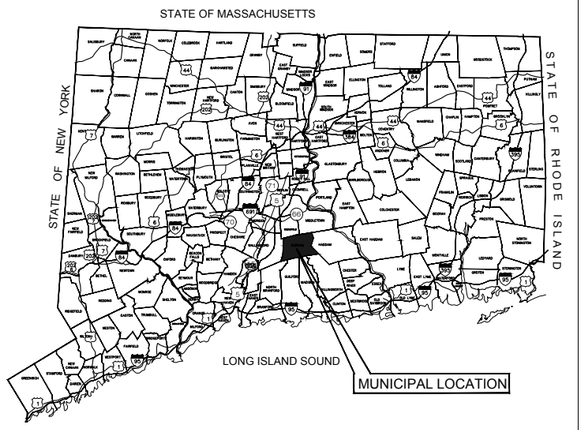
PROJECT NO.

DRAWING NO. E-6.2

SCALE: AS NOTED

SHEET: ARCH D [24x36]

Attachment C



PFISTER ENERGY
"PROPOSED SOLAR FACILITY"

DURHAM MANUFACTURING CO.
201 MAIN STREET
DURHAM, CT 06422

LIST OF DRAWINGS

SITE INFORMATION

SITE NAME: "DURHAM MANUFACTURING CO."
LOCATION: 201 MAIN STREET
DURHAM, CT 06422

SITE TYPE/DESCRIPTION: GROUND MOUNTED SOLAR PANEL ARRAY (4,194 PANELS) W/ ASSOCIATED ACCESS DRIVE & EQUIPMENT. ADD CHAIN LINK FENCE TO SURROUND NEW SOLAR ARRAY & ELECTRIC INTERCONNECTION FROM NEW SOLAR FACILITY TO EXIST. DURHAM MANUFACTURING ELECTRICAL ROOM.

PROPERTY OWNER: DURHAM MANUFACTURING CO.
P.O. BOX 230
DURHAM, CT 06422

APPLICANT: PFISTER ENERGY
57 GOFFLE ROAD
HAWTHORNE, NJ 07506
(973) 653-9880

ENGINEER CONTACT: BRADLEY J. PARSONS, P.E., P.M.P.
(860) 663-1697 x208

ENVIRONMENTAL MONITOR CONTACT: DEAN GUSTAFSON
(860) 663-1697 x201

SWPCP IMPLEMENTATION/: INSPECTION CONTACT: TBD

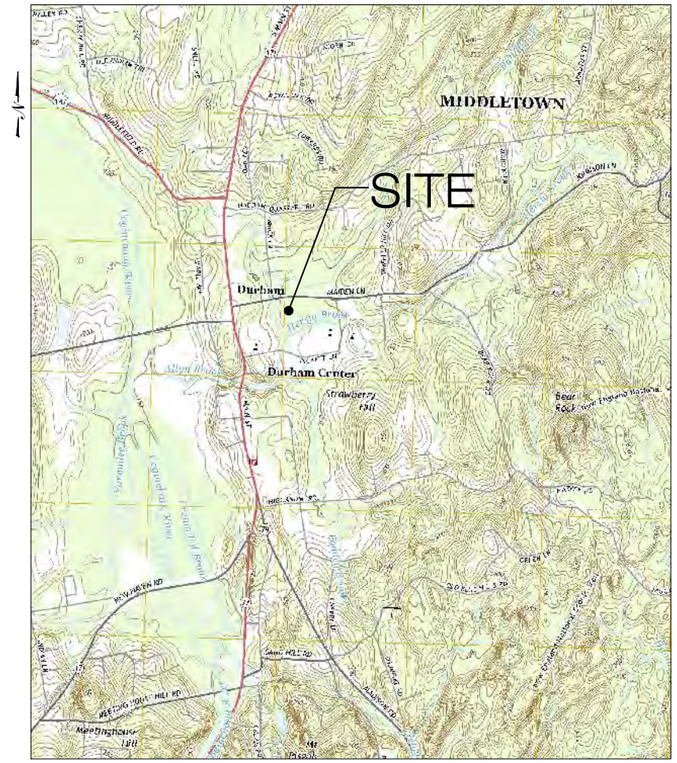
SWPCP REGULAR MONITOR: TBD

LATITUDE: 41°28'43.36" N
LONGITUDE: 72°40'34.05" W
ELEVATION: 196'± AMSL

MAP/LOT: 38/46
ZONE: MR/FR
FEMAPANEL: #09007C0206G; EFFECTIVE DATE: AUG. 28, 2008

TOTAL SITE ACREAGE: 18.08 AC.
TOTAL PROJECT AREA: 6.81 AC.

USGS TOPOGRAPHIC MAP



PFISTER ENERGY
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(973) 653-9880
www.pfisterenergy.com

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
WWW.ALLPOINTSTECH.COM

CSC PETITION

NO	DATE	REVISION
0	01/22/18	FOR REVIEW: BJP
1	02/21/18	FOR CSC SUB. DRAFT: BJP
2	03/12/18	FOR CSC SUBMISSION: BJP
3	04/30/18	FOR CSC INTER. RESP.: BJP
4	05/08/18	FOR CSC INTER. RESP.: BJP
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: DURHAM MANUFACTURING CO.
ADDRESS: P.O. BOX 230 DURHAM, CT 06422

DURHAM MANUFACTURING CO.

SITE ADDRESS: 201 MAIN STREET DURHAM, CT 06422

APT FILING NUMBER: CT528100

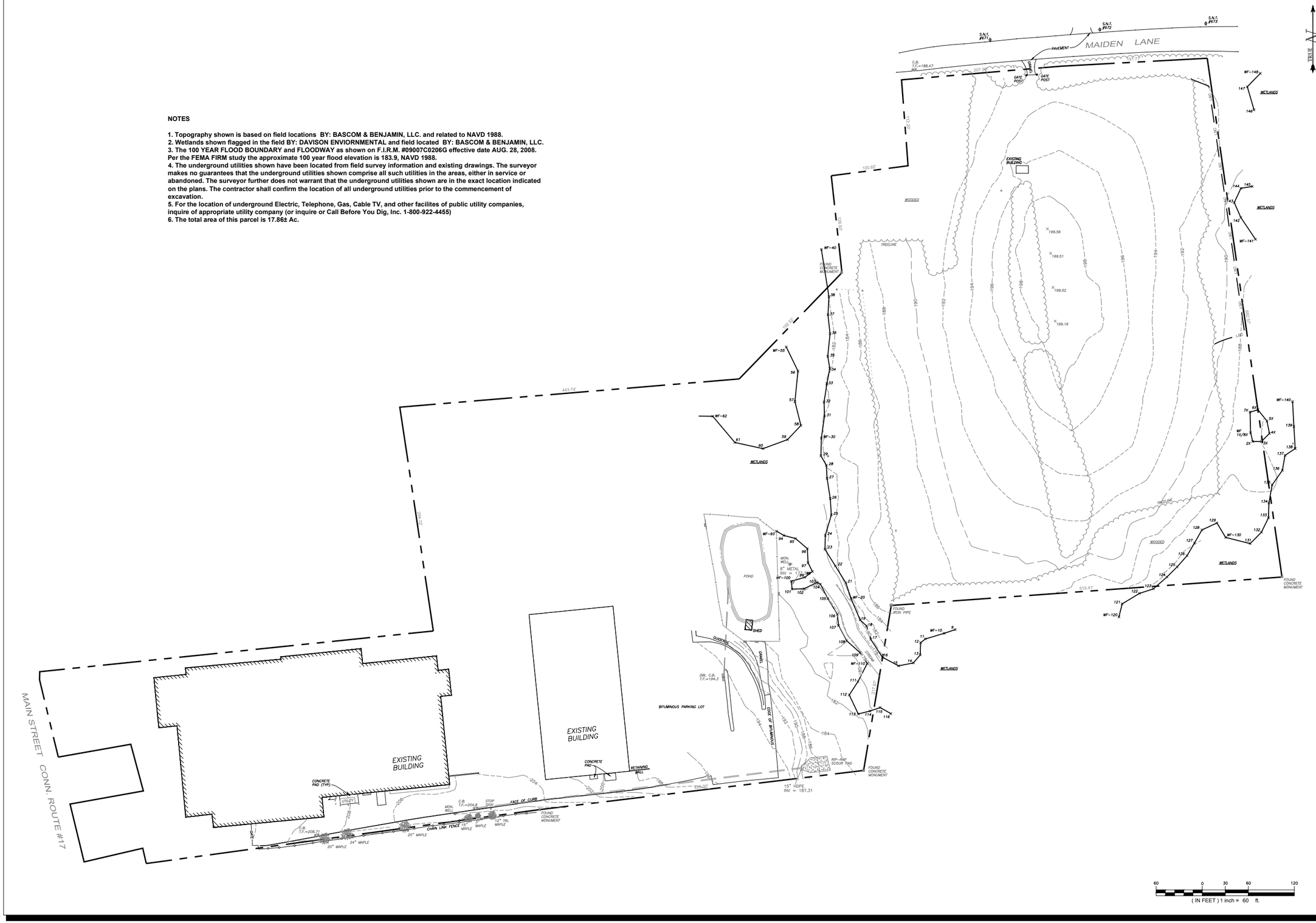
DRAWN BY: ELZ/JT
DATE: 1/22/2018
CHECKED BY: BJP

SHEET TITLE:
TITLE SHEET & INDEX

SHEET NUMBER:
T-1

NOTES

1. Topography shown is based on field locations BY: BASCOM & BENJAMIN, LLC. and related to NAVD 1988.
2. Wetlands shown flagged in the field BY: DAVISON ENVIORNMENTAL and field located BY: BASCOM & BENJAMIN, LLC.
3. The 100 YEAR FLOOD BOUNDARY and FLOODWAY as shown on F.I.R.M. #09007C0206G effective date AUG. 28, 2008. Per the FEMA FIRM study the approximate 100 year flood elevation is 183.9, NAVD 1988.
4. The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the areas, either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated on the plans. The contractor shall confirm the location of all underground utilities prior to the commencement of excavation.
5. For the location of underground Electric, Telephone, Gas, Cable TV, and other facilites of public utility companies, inquire of appropriate utility company (or inquire or Call Before You Dig, Inc. 1-800-922-4455)
6. The total area of this parcel is 17.86± Ac.



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CSC PETITION

NO	DATE	REVISION
0		
1		
2		
3		
4		
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: DURHAM MANUFACTURING CO.
ADDRESS: P.O. BOX 230 DURHAM, CT 06422

DURHAM MANUFACTURING CO.

SITE ADDRESS: 201 MAIN STREET DURHAM, CT 06422

APT FILING NUMBER: CT528100

DRAWN BY:

DATE:

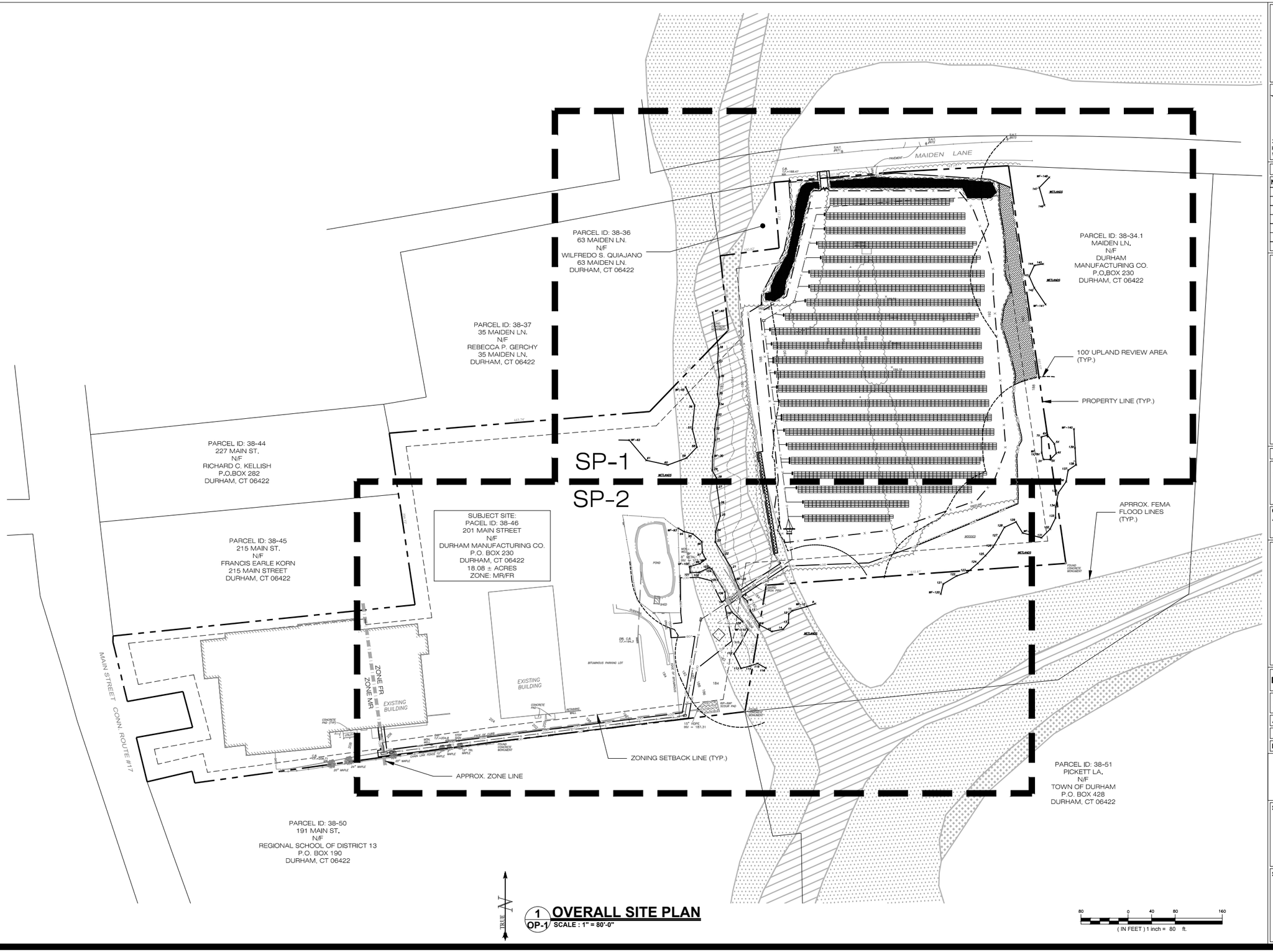
CHECKED BY:

SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

EX-1



1 OP-1 **OVERALL SITE PLAN**
SCALE : 1" = 80'-0"

80 0 40 80 160
(IN FEET) 1 inch = 80 ft.

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CSC PETITION

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6		

DESIGN PROFESSIONAL OF RECORD

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ADDRESS: P.O. BOX 230 DURHAM, CT 06422

DURHAM MANUFACTURING CO.

SITE ADDRESS: 201 MAIN STREET DURHAM, CT 06422

APT FILING NUMBER: CT528100

DRAWN BY: ELZ/JT

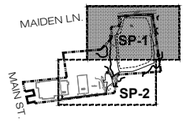
DATE: 1/22/2018 CHECKED BY: BJP

SHEET TITLE:

OVERALL SITE PLAN

SHEET NUMBER:

OP-1



KEY PLAN

MATCHLINE: SEE SHEET SP-2

PFISTER ENERGY

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6		

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ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

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APT FILING NUMBER: CT528100

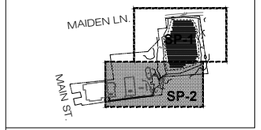
DRAWN BY: ELZ/JT
DATE: 1/22/2018 CHECKED BY: BJP

SHEET TITLE:

SITE PLAN

SHEET NUMBER:

SP-1



KEY PLAN

N

TRUE N

MATCHLINE: SEE SHEET SP-1

PROP. ELECTRICAL EQUIPMENT (SEE ELECTRICAL PLANS)

EXISTING GRADE TO BE MAINTAINED CONTRACTOR TO SMOOTH AS NECESSARY (TYP.)

2 DN-1 PROP. SOLAR PANEL ARRAY (TYP.) (4,194 TOTAL PANELS)

3 DN-1 PROP. 6' HIGH CHAIN LINK FENCE (TYP.)

PROP. 5' WIDE 172'± LONG NATIVE PLANTING STRIP (NEW ENGLAND ROADSIDE MATRIX UPLAND SEED MIX) 4 DN-1

PROP. ELECTRICAL PULL BOX (TYP.) (SEE ELECTRICAL PLANS)

PROP. UNDERGROUND ELECTRICAL (SEE ELECTRICAL PLANS)

PROP. LIMIT OF DISTURBANCE (SEE SHEETS EC-1,2,3,4)

PROP. SAWCUT & PAVEMENT REPAIR

APPROX. 100 YEAR FEMA FLOOD LINE

APPROX. FEMA FLOODWAY

294.72'

510.41'

EXISTING BUILDING

EXISTING BUILDING

BITUMINOUS PARKING LOT

POND

SHED

GUIDERAIL

DBL C.B. T.F.=194.3

EDGE OF BITUMINOUS

CONCRETE PAD

RETAINING WALL

RIP-RAP SCOUR PAD

FOUND CONCRETE MONUMENT

FOUND CONCRETE MONUMENT

MON. WELL

8" METAL INV = 177.38

GRND IRON PIPE

STREAM

WETLANDS

WETLANDS

WOODED

TREELINE

GRADE TO DRAIN

EXIST. GRADE TO BE MAINTAINED

100' UPLAND REVIEW AREA

50' UPLAND REVIEW AREA

75' UPLAND REVIEW AREA

75' UPLAND REVIEW AREA

C.B. T.F.=204.8

STOP SIGN

FACE OF CURB

CHAIN LINK FENCE

15" MAPLE

3" MAPLE

12" TRI. MAPLE

20" MAPLE

MAPLE

15" HDPE INV = 187.31

WF-93 WF-100 WF-20 WF-10 WF-110 WF-120 WF-1

LOD E B-1 B-2

(IN FEET) 1 inch = 40 ft.

40	0	20	40	80

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6		

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: DURHAM MANUFACTURING CO.
ADDRESS: P.O. BOX 230 DURHAM, CT 06422

DURHAM MANUFACTURING CO.

SITE ADDRESS: 201 MAIN STREET DURHAM, CT 06422

APT FILING NUMBER: CT528100

DRAWN BY: ELZ/JT

DATE: 1/22/2018 CHECKED BY: BJP

SHEET TITLE:

SITE PLAN

SHEET NUMBER:

SP-2

PROP. CONSTRUCTION ENTRANCE (2 / DN-2)

APPROX. 500 YEAR FEMA FLOOD LINE

PROP. CLEARING (UPON INSTALLATION OF PERIMETER CONTROLS) - CLEARING ACTIVITIES INSIDE LOD INCLUDES THE REMOVAL OF ALL CHRISTMAS TREES (NOT TO BE RELOCATED). ALL OTHER BRUSH, TREES & STUMPS TO BE REMOVED. CLEARED MATERIAL TO BE CHIPPED & STOCKPILED. DISTURBED AREAS TO BE LOAMED & SEEDED AT THE COMPLETION OF CONSTRUCTION. (TYP.)

PROP. TURBIDITY MONITORING POINT #1

PROP. TURBIDITY MONITORING POINT #2

APPROX. 100 YEAR FEMA FLOOD LINE

APPROX. LIMITS OF FEMA FLOODWAY

PROP. STRAW WATTLE (TYP. BOTH SIDES)

PROP. SILT FENCE WING (4 / DN-2) (9 LOCATIONS, TYP.)

PROP. SELECTIVE CLEARING OF TREES TO PREVENT SHADING OF FACILITY. STUMPS TO REMAIN. NO GRUBBING. ALL UNDERBRUSH TO REMAIN. CLEARED MATERIAL TO BE CHIPPED & STOCKPILED, TO BE USED FOR TEMPORARY STABILIZATION.

SILT FENCE DRAINAGE AREAS

PROP. LIMIT OF SELECTIVE CLEARING

PROP. LIMIT OF DISTURBANCE (TYP.)

PROP. SILT FENCE (1 / DN-2) (TYP.)

SILT FENCE INSTALLED TO REDUCE RUNOFF DOWN TRENCHING DISTURBANCE

PROP. SILT FENCE WING (4 / DN-2) (9 LOCATIONS, TYP.)

REMOVE TREES THAT CANNOT BE REMOVED DURING TRENCHING. STUMPS TO REMAIN UNTIL TRENCHING BEGINS

LIMIT OF PHASE 1 WORK

SF AREA 0.80 AC
SF AREA 0.86 AC
SF AREA 0.92 AC
SF AREA 0.56 AC
SF AREA 0.98 AC
SF AREA 0.62 AC
SF AREA 0.49 AC
SF AREA 0.18 AC
SF AREA 0.37 AC

WETLANDS
WOODED
TREELINE
EXISTING BUILDING
POND
SHED
MON. WELL
8" METAL INV = 17.
FOUND CONCRETE MONUMENT
FOUND IRON PIPE
GUIDERAIL
STONE WALL
STREAM
C.B. T.F.=188.47
GATE POST

(IN FEET) 1 inch = 40 ft.

PFISTER ENERGY

57 GOFFLE ROAD
HAWTHORNE, NJ 07506
(973) 653-9880
www.pfisterenergy.com

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
WWW.ALLPOINTSTECH.COM

CSC PETITION

NO	DATE	REVISION
0	01/22/18	FOR REVIEW: BJP
1	02/21/18	FOR CSC SUB. DRAFT: BJP
2	03/12/18	FOR CSC SUBMISSION: BJP
3	04/30/18	FOR CSC INTER. RESP.: BJP
4	05/08/18	FOR CSC INTER. RESP.: BJP
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: DURHAM MANUFACTURING CO.
ADDRESS: P.O. BOX 230 DURHAM, CT 06422

DURHAM MANUFACTURING CO.

SITE ADDRESS: 201 MAIN STREET DURHAM, CT 06422

APT FILING NUMBER: CT528100

DRAWN BY: ELZ/JT
DATE: 1/22/2018 CHECKED BY: BJP

SHEET TITLE:

SEDIMENTATION & EROSION CONTROL PLAN PHASE 1

SHEET NUMBER:

EC-1

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SHEET TITLE:

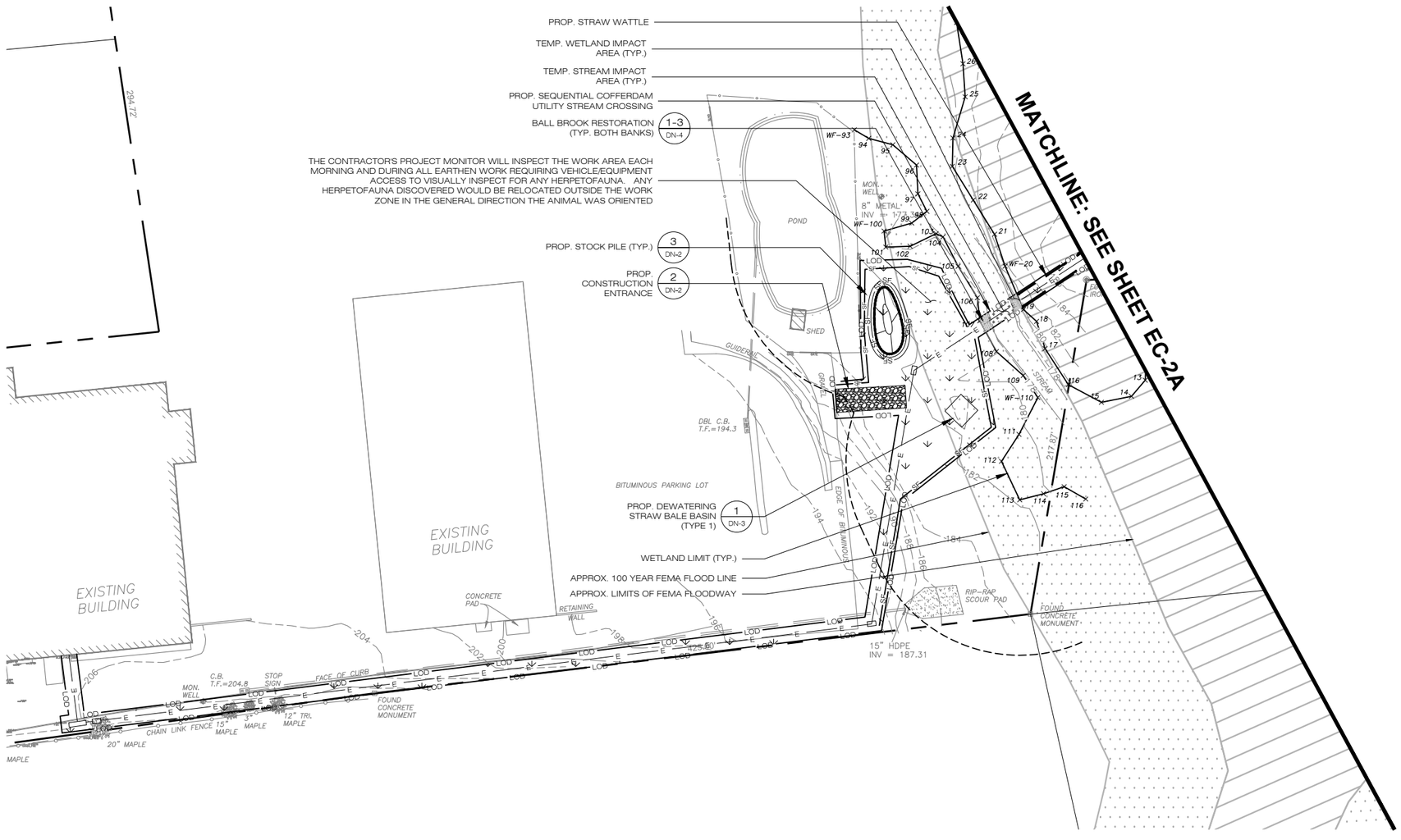
SEDIMENTATION & EROSION CONTROL PLAN PHASE 2

SHEET NUMBER:

EC-2A

UTILITY STREAM CROSSING NOTES

1. CONTRACTOR SHALL ONLY USE THE SEQUENTIAL COFFERDAM METHOD OF CONSTRUCTION FOR THE INSTALLATION OF THE ELECTRICAL INTERCONNECTION BETWEEN JUNE 15TH AND SEPTEMBER 30TH.
2. THIS WORK WILL CONSIST OF ISOLATING MORE THAN HALF THE WATERCOURSE CHANNEL FROM FLOW USING SAND BAGS OR SIMILAR NON-EROSIVE MATERIAL CAPABLE OF OBSTRUCTING WATER FLOW, TO CONSTRUCT HALF OF THE UTILITY. ONCE COMPLETE REMOVE THE THE COFFERDAM AND RECONSTRUCT SO THE REMAINING HALF OF THE UTILITY CAN BE CONSTRUCTED.
3. CONTRACTOR SHALL KEEP THE HEIGHT OF THE COFFERDAM TO ONLY THE HEIGHT NEEDED TO CONTROL THE LOW FLOW OF THE STREAM AND ALLOW FOR OVER TOPING DURING STORM EVENTS, AS TO REDUCE THE POTENTIAL FOR FLOOD DAMAGE TO NEIGHBORING PROPERTIES.
4. CONTRACTOR SHALL FOLLOW APPROPRIATE DEWATERING METHODS FOR WATER TRAPPED WITHIN THE COFFERDAM.
5. TOTAL STREAM/WETLAND IMPACT AREA = 288.2 S.F.
6. TOTAL LINEAR STREAM IMPACT= 18 LN. FT.
7. CONTRACTOR SHALL REFERENCE AND APPLY THE BALL BROOK BANK RESTORATION PLAN AND PLANTING PLAN FOUND ON SHEET DN-4 ON EITHER BANK OF THE STREAM.
8. CONTRACTOR SHALL PROTECT MATURE TREES NEAR THE STREAM BANK.



40 0 20 40 80
(IN FEET) 1 inch = 40 ft.

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SHEET TITLE:
SEDIMENTATION & EROSION CONTROL PLAN PHASE 2

SHEET NUMBER:
EC-2B

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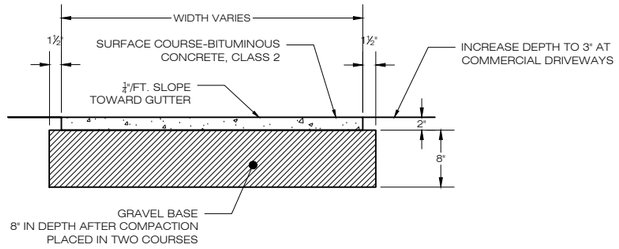
SHEET TITLE:

SEDIMENTATION & EROSION CONTROL PLAN PHASE 3

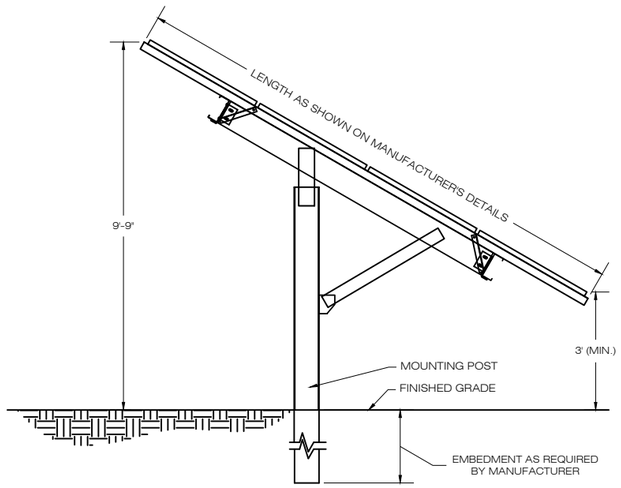
SHEET NUMBER:

EC-3



1 DN-1 ASPHALT DRIVEWAY SECTION

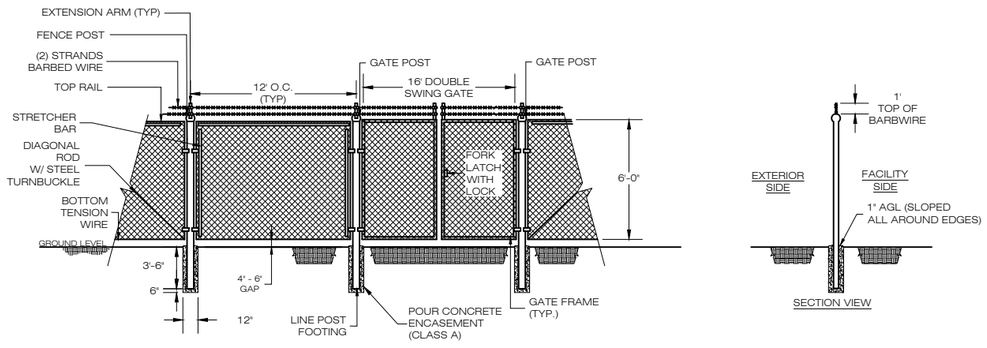
SCALE : N.T.S.



NOTES:
SEE MANUFACTURER'S DETAIL SHEETS FOR ADDITIONAL INFORMATION REGARDING RACKING SYSTEM REQUIREMENTS AND INSTALLATION PROCEDURES. RACKING SYSTEM TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

2 DN-1 TYPICAL POST MOUNTED RACKING SYSTEM

SCALE : N.T.S.



3 DN-1 CHAIN-LINK FENCING & GATE DETAIL

SCALE : N.T.S.

NEW ENGLAND WETLAND PLANTS, INC

820 WEST STREET, AMHERST, MA 01002
PHONE: 413-548-8000 FAX 413-549-4000
EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM

New England Roadside Matrix Upland Seed Mix

Botanical Name	Common Name	Indicator
Elymus virginicus	Virginia Wild Rye	FACW-
Desmodium paniculatum	Panicledleaf Tick Trefoil	
Schizachyrium scoparium	Little Bluestem	FACU
Andropogon gerardii	Big Bluestem	FAC
Festuca rubra	Red Fescue	FACU
Sorghastrum nutans	Indian Grass	UPL
Panicum virgatum	Switch Grass	FAC
Rhus typhina	Staghorn Sumac	
Cornus racemosa	Grey Dogwood	FAC
Cornus amomum	Silky Dogwood	FACW
Penstemon digitalis	Beard Tongue	FAC
Asclepias tuberosa	Butterfly Milkweed	NI
Rudbeckia hirta	Black Eyed Susan	FACU-
Chamaecrista fasciculata	Partridge Pea	FACU
Eupatorium fistulosum (Eutrochium fistulosum)	Hollow-Stem Joe Pye Weed	FACW

4 DN-1 NATIVE PLANTING STRIP SEED MIX

SCALE : N.T.S.

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SHEET TITLE:

DETAIL SHEET

SHEET NUMBER:

DN-1

EROSION CONTROL NOTES

EROSION AND SEDIMENT CONTROL PLAN NOTES

1. THE CONTRACTOR SHALL CONSTRUCT ALL SEDIMENT AND EROSION CONTROLS IN ACCORDANCE WITH THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, LATEST EDITION, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, AND AS DIRECTED BY THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION (CT DEEP). THE CONTRACTOR SHALL KEEP A COPY OF THE CURRENT GUIDELINES ON-SITE FOR REFERENCE DURING CONSTRUCTION. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CLEARING AND GRUBBING AND DEMOLITION OPERATIONS.

2. THESE DRAWINGS ARE ONLY INTENDED TO DESCRIBE THE SEDIMENT AND EROSION CONTROL MEASURES FOR THIS SITE. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN ARE SHOWN IN A GENERAL SIZE AND LOCATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL EROSION CONTROL MEASURES ARE CONFIGURED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION OF SOILS AND PREVENT THE TRANSPORT OF SEDIMENTS AND OTHER POLLUTANTS TO STORM DRAINAGE SYSTEMS AND/OR WATERCOURSES. ACTUAL SITE CONDITIONS OR SEASONAL AND CLIMATIC CONDITIONS MAY WARRANT ADDITIONAL CONTROLS OR CONFIGURATIONS WHEN DIRECTED BY THE ENGINEER. SEE SEDIMENT AND EROSION CONTROL DETAILS AND SUGGESTED CONSTRUCTION SEQUENCE FOR MORE INFORMATION. REFER TO SITE PLAN FOR GENERAL INFORMATION AND OTHER CONTRACT PLANS FOR APPROPRIATE INFORMATION.

3. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE SEDIMENT AND EROSION CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE PROPER INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED WITH CONSTRUCTION ON THE SITE OF THE REQUIREMENTS AND OBJECTIVES OF THIS PLAN, INFORMING THE GOVERNING AUTHORITY OR INLAND WETLANDS AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY, AND FOR CONVEYING A COPY OF THE SEDIMENT & EROSION CONTROL PLAN IF THE TITLE TO THE LAND IS TRANSFERRED. COMPLY WITH REQUIREMENTS OF CGS SECTION 22A, 430B FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES AND WITH CT DEEP RECORD KEEPING AND INSPECTION REQUIREMENTS.

4. A BOND OR LETTER OF CREDIT MAY BE REQUIRED TO BE POSTED WITH THE GOVERNING AUTHORITY FOR THE EROSION CONTROL INSTALLATION AND MAINTENANCE.

5. THE CONTRACTOR SHALL APPLY THE MINIMUM EROSION & SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN IN CONJUNCTION WITH CONSTRUCTION SEQUENCING, SUCH THAT ALL ACTIVE WORK ZONES ARE PROTECTED. ADDITIONAL AND/OR ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES MAY BE INSTALLED DURING THE CONSTRUCTION PERIOD IF FOUND NECESSARY BY THE CONTRACTOR, APPLICANT, SITE ENGINEER, MUNICIPAL OFFICIALS, OR ANY GOVERNING AGENCY. THE CONTRACTOR SHALL CONTACT THE APPLICANT AND APPROPRIATE GOVERNING AGENCIES FOR APPROVAL IF ALTERNATIVE CONTROLS OTHER THAN THOSE SHOWN ON THE PLANS ARE PROPOSED BY THE CONTRACTOR.

6. THE CONTRACTOR SHALL TAKE EXTREME CARE DURING CONSTRUCTION SO AS NOT TO DISTURB UNPROTECTED WETLAND AREAS OR SEDIMENTATION AND EROSION CONTROL MEASURES. THE CONTRACTOR SHALL INSPECT ALL SEDIMENT AND EROSION CONTROLS WEEKLY AND WITHIN 24 HOURS OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER TO VERIFY THAT THE CONTROLS ARE OPERATING PROPERLY AND MAKE REPAIRS WHERE NECESSARY.

7. THE CONTRACTOR SHALL KEEP A SUPPLY OF EROSION CONTROL MATERIAL (HAY BALES, SILT FENCE, JUTE MESH, ETC.) ON-SITE FOR PERIODIC MAINTENANCE AND EMERGENCY REPAIRS.

8. ALL FILL MATERIAL PLACED ADJACENT TO ANY WETLAND AREA SHALL BE GOOD QUALITY, WITH LESS THAN 5% FINES PASSING THROUGH A #200 SIEVE (BANK RUN), SHALL BE PLACED IN MAXIMUM ONE FOOT LIFTS, AND SHALL BE COMPACTED TO 95% MAX. DRY DENSITY MODIFIED PROCTOR OR AS SPECIFIED IN THE CONTRACT SPECIFICATIONS.

9. PROTECT EXISTING TREES THAT ARE TO BE SAVED BY FENCING AT THE DRIP LINE, OR AS DETAILED, WITH SNOW FENCE, ORANGE SAFETY FENCE, OR EQUIVALENT FENCING. ANY LIMB TRIMMING SHOULD BE DONE AFTER CONSULTATION WITH AN ARBORIST AND BEFORE CONSTRUCTION BEGINS IN THAT AREA; FENCING SHALL BE MAINTAINED AND REPAIRED DURING CONSTRUCTION.

10. ANTI-TRACKING PADS SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR CONSTRUCTION ACTIVITY AND SHALL BE MAINTAINED THROUGHOUT THE DURATION OF ALL CONSTRUCTION. THE LOCATION OF THE TRACKING PADS MAY CHANGE AS VARIOUS PHASES OF CONSTRUCTION ARE COMPLETED.

11. ALL CONSTRUCTION SHALL BE CONTAINED WITHIN THE LIMIT OF DISTURBANCE, WHICH SHALL BE MARKED WITH SILT FENCE, SAFETY FENCE, HAY BALES, RIBBONS, OR OTHER MEANS PRIOR TO CLEARING. CONSTRUCTION ACTIVITY SHALL REMAIN ON THE UPHILL SIDE OF THE SEDIMENT BARRIER UNLESS WORK IS SPECIFICALLY CALLED FOR ON THE DOWNHILL SIDE OF THE BARRIER. STAKED HAY BALES OR SILT FENCES SHALL ALSO BE INSTALLED AT THE DOWNHILL SIDES OF BUILDING EXCAVATIONS, DEWATERING PUMP DISCHARGES, AND MATERIAL STOCKPILES.

12. WASHOUT OF APPLICATORS, CONTAINERS, VEHICLES AND EQUIPMENT FOR CONCRETE SHALL BE CONDUCTED IN A DESIGNATED WASHOUT AREA. NO SURFACE DISCHARGE OF WASHOUT WASTEWATERS FROM THE AREA WILL BE ALLOWED. ALL CONCRETE WASHWATER WILL BE DIRECTED INTO A CONTAINER OR PIT SUCH THAT NO OVERFLOWS CAN OCCUR. WASHOUT SHALL BE CONDUCTED IN AN ENTIRELY SELF-CONTAINED SYSTEM AND WILL BE CLEARLY DESIGNED AND FLAGGED OR SIGNED WHERE NECESSARY. THE WASHOUT AREA SHALL BE LOCATED OUTSIDE OF ANY BUFFERS AND AT LEAST 50 FEET FROM ANY STREAM, WETLAND OR OTHER SENSITIVE WATER OR NATURAL RESOURCES AS DETERMINED OR DESIGNATED BY THE ENGINEER.

13. TOPSOIL THAT IS REMOVED AS THE RESULT OF EXCAVATION SHALL BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING. ALL EARTH STOCKPILES SHALL HAVE HAY BALES OR SILT FENCE AROUND THE LIMIT OF PILE. PILES SHALL BE TEMPORARILY SEEDED IF PILE IS TO REMAIN IN PLACE AND UNDISTURBED FOR MORE THAN 30 DAYS.

14. NO CUT OR FILL SLOPES SHALL EXCEED 2:1 EXCEPT WHERE STABILIZED BY ROCK FACED EMBANKMENTS OR EROSION CONTROL BLANKETS AND VEGETATION. ALL SLOPES SHALL BE SEEDED, AND THE ROAD SHOULDER AND BANKS WILL BE STABILIZED IMMEDIATELY UPON COMPLETION OF FINAL GRADING UNTIL TURF IS ESTABLISHED.

15. DIRECT ALL DEWATERING PUMP DISCHARGE TO A SEDIMENT CONTROL DEVICE SUCH AS TEMPORARY SEDIMENT TRAPS OR GRASS FILTERS WITHIN THE APPROVED LIMIT OF DISTURBANCE. DISCHARGE TO STORM DRAINS OR SURFACE WATERS FROM SEDIMENT CONTROLS SHALL BE CLEAR AND APPROVED BY THE ENGINEER.

16. THE CONTRACTOR SHALL MAINTAIN A CLEAN CONSTRUCTION SITE AND SHALL NOT ALLOW THE ACCUMULATION OF RUBBISH OR CONSTRUCTION DEBRIS ON THE SITE. PROPER SANITARY DEVICES SHALL BE MAINTAINED ON-SITE AT ALL TIMES. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID THE SPILLAGE OF FUEL OR OTHER POLLUTANTS ON THE CONSTRUCTION SITE AND SHALL ADHERE TO ALL APPLICABLE POLICIES AND REGULATIONS RELATED TO SPILL PREVENTION AND RESPONSE/CONTAINMENT.

17. SWEEP AFFECTED PORTIONS OF OFF SITE ROADS ONE OR MORE TIMES A DAY (OR LESS FREQUENTLY IF TRACKING IS NOT A PROBLEM) DURING CONSTRUCTION. FOR DUST CONTROL, PERIODICALLY MOISTEN EXPOSED SOIL SURFACES WITH WATER ON UNPAVED TRAVELWAYS TO KEEP THE TRAVELWAYS DAMP. CALCIUM CHLORIDE MAY ALSO BE APPLIED TO ACCESS ROADS. DUMP TRUCK LOADS EXITING THE SITE SHALL BE COVERED.

18. TURF ESTABLISHMENT SHALL BE PERFORMED OVER ALL DISTURBED SOIL, UNLESS THE AREA IS UNDER ACTIVE CONSTRUCTION, IT IS COVERED IN STONE OR SCHEDULED FOR PAVING WITHIN 30 DAYS. TEMPORARY SEEDING OR NON-LIVING SOIL PROTECTION OF ALL EXPOSED SOILS AND SLOPES SHALL BE INITIATED WITHIN THE FIRST 7 DAYS OF SUSPENDING WORK IN AREAS TO BE LEFT LONGER THAN 30 DAYS.

19. IF CONSTRUCTION ACTIVITIES ARE COMPLETE OR HAVE BEEN TEMPORARILY HALTED FOR 7 DAYS, STABILIZATION ACTIVITIES WILL BE IMPLEMENTED WITHIN 3 DAYS.

20. TWO WEEKS BEFORE THE FALL SEEDING SEASON BEGINS (AUGUST 15 TO OCTOBER 15), THE CONTRACTOR SHALL SCHEDULE A MEETING WITH APPLICANT TO DISCUSS STABILIZING THE SITE FOR WINTER MONTHS. MEASURES SUCH AS MULCHING AND/OR SEEDING MAY BE REQUIRED.

21. MAINTAIN ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL DEVICES IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK SWEEP PARKING LOTS, CLEAN THE STORM DRAINAGE SYSTEMS AND REMOVE ALL TEMPORARY SEDIMENT CONTROLS ONCE THE SITE IS FULLY STABILIZED AND APPROVAL HAS BEEN RECEIVED FROM APPLICANT AND/OR ENGINEER.

22. SEEDING MIXTURES:
    A. NEW ENGLAND EROSION CONTROL/ RESTORATION MIX FOR MOIST SITES SPREAD AT A RATE OF 35 LBS PER ACRE:VIRGINIA WILD RYE, (ELYMUS VIRGINICUS), CREEPING RED FESCUE, (FESTUCA RUBRA), LITTLE BLUESTEM,(SCHIZACHYRIUM SCOPARIUM), BIG BLUESTEM, (ANDROPOGON GERARDII), FOX SEDGE, (CAREX VULPINOIDEA), SWITCH GRASS, (PANICUM VIRGATUM), ROUGH BENTGRASS, (AGROSTIS SCABRA), NEW ENGLAND ASTER, (ASTER NOVAE-ANGLIAE), BONESET, (EUPATORIUM PERFOLIATUM), GRASS LEAVED GOLDENROD, (EUTHAMIA GRAMINIFOLIA), GREEN BULRUSH, (SCIRPUS ATROVIRENS), BLUE VERVAIN, (VERBENA HASTATA), SOFT RUSH, (JUNCUS EFFUSUS), WOOL GRASS, (SCIRPUS CYPERINUS).
    B. NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DRY SITES SPREAD AT A RATE OF 35 LBS PER ACRE: CREEPING RED FESCUE, (FESTUCA RUBRA), CANADA WILD RYE, (ELYMUS CANADENSIS), ANNUAL RYEGRASS, (LOLIUM MULTIFLORUM), PERENNIAL RYEGRASS, (LOLIUM PERENNE), BLUE GRAMA, (BOUTELOUA GRACILIS), LITTLE BLUESTEM, (SCHIZACHYRIUM SCOPARIUM), INDIAN GRASS, (SORGHASTRUM NUTANS), ROUGH BENTGRASS, (AGROSTIS SCABRA), UPLAND BENTGRASS, (AGROSTIS PERENNANS).

23. PLASTIC NETTING USED IN A VARIETY OF EROSION CONTROL PRODUCTS (I.E., EROSION CONTROL BLANKETS, FIBER ROLLS [WATTLES], REINFORCED SILT FENCE) HAS BEEN FOUND TO ENTANGLE WILDLIFE, INCLUDING REPTILES, AMPHIBIANS, BIRDS AND SMALL MAMMALS. NO PERMANENT EROSION CONTROL PRODUCTS OR REINFORCED SILT FENCE WILL BE USED ON THE PROJECT. TEMPORARY EROSION CONTROL PRODUCTS WILL USE EITHER EROSION CONTROL BLANKETS AND FIBER ROLLS COMPOSED OF PROCESSED FIBERS MECHANICALLY BOUND TOGETHER TO FORM A CONTINUOUS MATRIX (NET LESS) OR NETTING COMPOSED OF PLANAR WOVEN NATURAL BIODEGRADABLE FIBER TO AVOID/MINIMIZE WILDLIFE ENTANGLEMENT.

SEDIMENT & EROSION CONTROL NARRATIVE

1. THE PROJECT INCLUDES THE CLEARING OF APPROXIMATELY 6.81± ACRES OF EXISTING WOODLAND AREA FOR THE INSTALLATION OF A GROUND MOUNTED SOLAR PANEL FACILITY WITH ASSOCIATED EQUIPMENT. THE POST CONSTRUCTION RUNOFF WILL MIMIC PRE CONSTRUCTION RUNOFF CONDITIONS.

   THE PROP. PROJECT INVOLVES THE FOLLOWING CONSTRUCTION:
   A. CONSTRUCTION OF 4,194 GROUND MOUNTED SOLAR PANELS AND ASSOCIATED EQUIPMENT.
   B. CONSTRUCTION OF PAVED DRIVEWAY APRON.
   C. CONSTRUCTION OF A CHAIN LINK FENCE SURROUNDING THE SOLAR PANEL FACILITY.
   D. THE STABILIZATION OF PERVIOUS DISTURBED AREAS WITH PERMANENT GRASS AND PLANTINGS, AS REQUIRED.

2. FOR THIS PROJECT, THERE ARE APPROXIMATELY 6.38± ACRES OF THE SITE BEING DISTURBED.

3. THE PROJECT SITE, AS MAPPED IN THE SOIL SURVEY OF MIDDLESEX COUNTY (SCS, 1976), CONTAINS TYPE C SOILS.

4. A GEOTECHNICAL ENGINEERING REPORT HAS BEEN COMPLETED BY AND IS AVAILABLE BY REQUEST.

5. A WETLAND DELINEATION REPORT HAS BEEN COMPLETED AND IS AVAILABLE BY REQUEST.

6. IT WILL BE IMPORTANT THAT THE EXISTING WETLAND RESOURCE AREAS BE PROTECTED DURING AND AFTER CONSTRUCTION FROM SEDIMENTATION AND POLLUTANTS TO THE EXTENT POSSIBLE. CUT AND FILL SLOPES WILL NEED TO BE STABILIZED BY VEGETATION, RIPRAP OR EROSION CONTROL GEOTEXTILES AS SOON AS POSSIBLE TO MINIMIZE SLOPE EROSION. ALL CUT AND FILL SLOPES 3:1 OR LESS WILL BE SEEDED, FERTILIZED AND MULCHED FOR TEMPORARY AND PERMANENT STABILIZATION. TOPSOIL AND EXCAVATED MATERIAL STOCKPILE AREAS MUST BE CONTAINED BY SILT FENCE AND HAY BALES AND STABILIZED BY VEGETATION IF LEFT UNDISTURBED FOR MORE THAN 30 DAYS. DEWATERING WASTEWATER FROM TRENCHING OPERATIONS SHALL BE ADDRESSED DURING CONSTRUCTION. ALL WATER FROM DEWATERING OPERATIONS SHALL BE DIRECTED TO DEWATERING PUMP SETTLING BASINS. CONSTRUCTION NEAR WETLANDS SHALL BE ISOLATED BY USE OF CONSTRUCTION FENCING OR A COFFERDAM AND THE TEMPORARY DISTURBED AREA SHALL BE KEPT TO A MINIMUM. WORK IN HIGH GROUNDWATER AREAS SHALL BE SCHEDULED, WHEN POSSIBLE, SO IT CAN BE COMPLETED IN A DRY PERIOD AND IN THE SHORTEST TIME POSSIBLE.

7. IT IS ANTICIPATED THAT CONSTRUCTION WILL BE COMPLETED IN APPROXIMATELY 4 MONTHS.

8. REFER TO THE CONSTRUCTION SEQUENCING AND EROSION AND SEDIMENTATION NOTES FOR INFORMATION REGARDING SEQUENCING OF MAJOR OPERATIONS IN THE ON-SITE CONSTRUCTION PHASES.

9. STORMWATER MANAGEMENT DESIGN CRITERIA UTILIZES THE APPLICABLE SECTIONS OF THE 2004 CONNECTICUT STORMWATER QUALITY MANUAL TO THE EXTENT POSSIBLE AND PRACTICABLE FOR THIS PROJECT ON THIS SITE. EROSION AND SEDIMENTATION MEASURES ARE BASED UPON ENGINEERING PRACTICE, JUDGEMENT AND THE APPLICABLE SECTIONS OF THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.

10. DETAILS FOR THE TYPICAL EROSION AND SEDIMENTATION MEASURES ARE SHOWN ON PLAN SHEET DN-1 AND DN-2, OR PROVIDED AS SEPARATE SUPPORT DOCUMENTATION FOR REVIEW IN THIS PLAN.

11. THE CONTRACTOR SHALL ENSURE THAT THE PERIMETER SILT FENCE IS DIVIDED UP SUCH THAT NO SECTION OF SILT FENCE IS RECEIVING MORE THAN 1 ACRE OF DRAINAGE.

12. CONSERVATION PRACTICES TO BE USED DURING CONSTRUCTION AREA:
    A. STAGED CONSTRUCTION;
    B. MINIMIZE THE DISTURBED AREAS DURING CONSTRUCTION;
    C. STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE WITH TEMPORARY OR PERMANENT MEASURES;
    D. MINIMIZE IMPERVIOUS AREAS;
    E. UTILIZE APPROPRIATE CONSTRUCTION EROSION AND SEDIMENTATION MEASURES.

13. THE FOLLOWING SEPARATE DOCUMENTS ARE TO BE CONSIDERED A PART OF THE EROSION AND SEDIMENTATION PLAN:
    A. STORMWATER MANAGEMENT REPORT FOR EXISTING AND PROP. PEAK FLOWS.

SUGGESTED CONSTRUCTION SEQUENCE

THE FOLLOWING SUGGESTED SEQUENCE OF CONSTRUCTION ACTIVITIES IS PROJECTED BASED UPON ENGINEERING JUDGEMENT AND BEST MANAGEMENT PRACTICES. THE CONTRACTOR MAY ELECT TO ALTER THE SEQUENCING TO BEST MEET THE CONSTRUCTION SCHEDULE, THE EXISTING SITE ACTIVITIES AND WEATHER CONDITIONS, PROVIDED THAT THE CONTRACTOR FOLLOWS THE REQUIREMENTS OF THE 2002 GUIDELINES OF KEEPING THE PLAN CURRENT.

1. CONTACT THE APPLICANT AND ENVIRONMENTAL MONITOR TO SCHEDULE A PRE-CONSTRUCTION MEETING AT LEAST 5 DAYS PRIOR TO THE START OF CONSTRUCTION. PHYSICALLY FLAG THE LIMITS OF CLEARING IN THE FIELD AS NECESSARY TO FACILITATE THE PRE-CONSTRUCTION MEETING.

2. CONDUCT A PRE-CONSTRUCTION MEETING TO DISCUSS THE PROP. WORK AND EROSION AND SEDIMENTATION CONTROL MEASURES. THE MEETING SHOULD BE ATTENDED BY THE APPLICANT, THE APPLICANT REPRESENTATIVE(S), THE GENERAL CONTRACTOR, DESIGNATED SUB-CONTRACTORS AND THE PERSON, OR PERSONS, RESPONSIBLE FOR THE IMPLEMENTATION, OPERATION, MONITORING AND MAINTENANCE OF THE EROSION AND SEDIMENTATION MEASURES. THE CONSTRUCTION PROCEDURES FOR THE ENTIRE PROJECT SHALL BE REVIEWED AT THIS MEETING.

3. NOTIFY THE APPLICANT AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO COMMENCEMENT OF ANY DEMOLITION, CONSTRUCTION OR REGULATED ACTIVITY ON THIS PROJECT. NOTIFY CALL BEFORE YOU DIG AT 1-800-922-4455.

PHASE 1

4. REMOVE EXISTING IMPROVEMENTS AS NECESSARY AND PROVIDE MINIMAL CLEARING AND GRUBBING TO INSTALL THE REQUIRED CONSTRUCTION ENTRANCES AND INSTALL ENTRANCE.

5. CLEAR AND GRUB PHASE 1 LIMITS AS REQUIRED AND PERFORM SELECTIVE CLEARING, TO INSTALL THE PERIMETER EROSION AND SEDIMENTATION CONTROL MEASURES AND, IF APPLICABLE, TREE PROTECTION. ALL WETLAND AREAS SHALL BE PROTECTED BEFORE MAJOR CONSTRUCTION BEGINS.

6. INSTALL PERIMETER EROSION AND SEDIMENTATION CONTROL MEASURES AS SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLANS.

7. CLEAR AND GRUB REMAINDER OF SITE.

PHASE 2

8. GRADE AREA IN CENTER OF SITE THAT WAS CLEARED AND GRUBBED IF REQUIRED PROVIDE TEMPORARY STABILIZATION.

9. INSTALL GROUND MOUNTED SOLAR PANELS.

10. INSTALL ELECTRICAL CONDUIT.

11. INSTALL PAVED ACCESS DRIVES.

12. FINE GRADE, RAKE, SEED AND MULCH ALL REMAINING DISTURBED AREAS.

PHASE 3

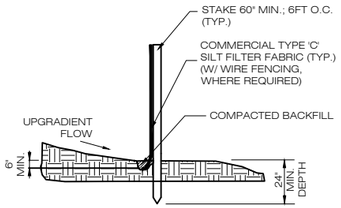
13. INSTALL PERIMETER CHAIN LINK FENCE AS SHOWN ON THE PLANS.

14. AFTER THE SITE IS DEEMED STABILIZED PER THE 2002 GUIDELINES AND WITH THE APPROVAL OF THE APPLICANT, REMOVE PERIMETER EROSION AND SEDIMENTATION CONTROLS.

15. PERFORM PROJECT CLEANUP

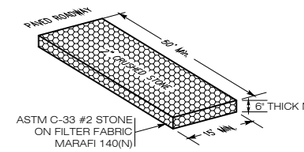
CONSTRUCTION OPERATION AND MAINTENANCE PLAN - BY CONTRACTOR

E&S MEASURE	INSPECTION SCHEDULE	MAINTENANCE REQUIRED
CONSTRUCTION ENTRANCE	DAILY	PLACE ADDITIONAL STONE, EXTEND THE LENGTH OR REMOVE AND REPLACE THE STONE. CLEAN PAVED SURFACES OF TRACKED SEDIMENT.
COIR LOG	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.5'	REPAIR/REPLACE WHEN FAILURE, OR DETERIORATION IS OBSERVED.
SILT FENCE	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.5"	REPAIR/REPLACE WHEN FAILURE, OR DETERIORATION IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE FENCE.
TOPSOIL/BORROW STOCKPILES	DAILY	REPAIR/REPLACE SEDIMENT BARRIERS AS NECESSARY.
TEMPORARY SOIL PROTECTION	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.5"	REPAIR ERODED OR BARE AREAS IMMEDIATELY. RESEED AND MULCH.

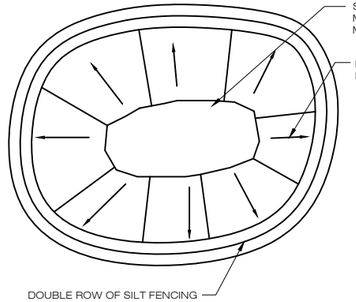


NOTE:
SILT FENCE SHALL BE LAPPED ONLY WHEN NECESSARY PER THE MANUFACTURER RECOMMENDATIONS.

1 DN-2 SILT FENCE DETAIL
SCALE : N.T.S.



2 DN-2 CONSTRUCTION ENTRANCE DETAIL
SCALE : N.T.S.



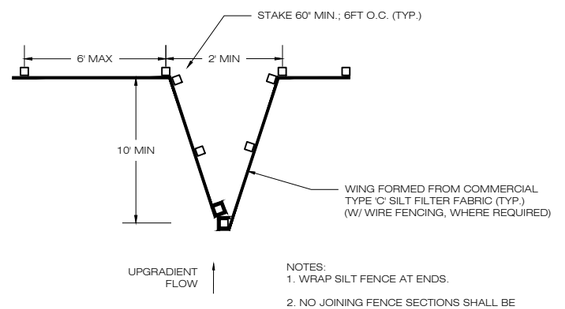
NOTES:
1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.

2. SOIL/AGGREGATE STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS.

3. RESTORE STOCKPILE SITES TO PRE-EXISTING PROJECT CONDITION AND RESEED AS REQUIRED.

4. STOCKPILE HEIGHTS MUST NOT EXCEED 35'. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

3 DN-2 MATERIALS STOCKPILE DETAIL
SCALE : N.T.S.



NOTES:
1. WRAP SILT FENCE AT ENDS.

2. NO JOINING FENCE SECTIONS SHALL BE INSTALLED WITHIN 30 FEET OF WING.

4 DN-2 SILT FENCE WING DETAIL
SCALE : N.T.S.

PFISTER ENERGY
57 GOFFLE ROAD
HAWTHORNE, NJ 07506
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3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
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CSC PETITION

NO	DATE	REVISION
0	01/22/18	FOR REVIEW: BJP
1	02/21/18	FOR CSC SUB. DRAFT: BJP
2	03/12/18	FOR CSC SUBMISSION: BJP
3	04/30/18	FOR CSC INTER. RESP.: BJP
4	05/08/18	FOR CSC INTER. RESP.: BJP
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

OWNER: DURHAM MANUFACTURING CO.
ADDRESS: P.O. BOX 230 DURHAM, CT 06422

DURHAM MANUFACTURING CO.

SITE ADDRESS: 201 MAIN STREET DURHAM, CT 06422

APT FILING NUMBER: CT528100

DRAWN BY: ELZ/JT

DATE: 1/22/2018 CHECKED BY: BJP

SHEET TITLE:
SEDIMENTATION & EROSION CONTROL NOTES & DETAIL SHEET

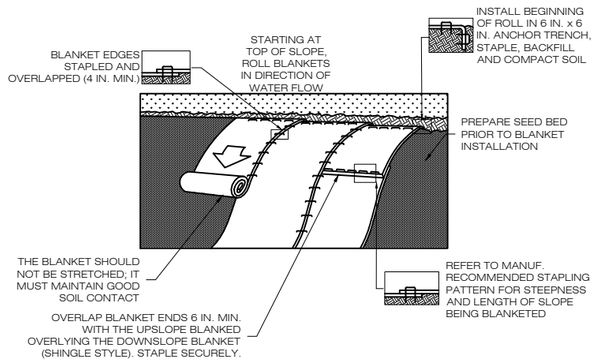
SHEET NUMBER:
DN-2

SITE PLAN NOTES

1. ALL CONSTRUCTION SHALL COMPLY WITH APPLICANT STANDARDS, TOWN OF DURHAM STANDARDS, CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS IN THE ABOVE REFERENCED INCREASING HIERARCHY. IF SPECIFICATIONS ARE IN CONFLICT, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
2. IF NO PROJECT CONSTRUCTION SPECIFICATION PACKAGE IS PROVIDED BY THE OWNER OR OWNERS REPRESENTATIVE, THE CONTRACTOR SHALL COMPLY WITH THE MANUFACTURE, TOWN OF DURHAM, CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (817) IN ACCORDANCE WITH ALL APPLICABLE OSHA, FEDERAL, STATE AND LOCAL REGULATIONS.
3. THE APPLICANT IS RESPONSIBLE FOR OBTAINING ALL NECESSARY ZONING AND STORMWATER PERMITS REQUIRED BY GOVERNMENT AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL TOWN OF DURHAM CONSTRUCTION PERMITS, INCLUDING CONNECTICUT DOT PERMITS. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
4. REFER TO PLANS, DETAILS AND REPORTS PREPARED BY ALL-POINTS TECHNOLOGY CORPORATION FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS IN THE FIELD AND CONTACT THE ENGINEER IF THERE ARE ANY QUESTIONS OR CONFLICTS REGARDING THE CONSTRUCTION DOCUMENTS AND/OR FIELD CONDITIONS SO THAT APPROPRIATE REVISIONS CAN BE MADE PRIOR TO BIDDING/CONSTRUCTION. ANY CONFLICT BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE CONFIRMED WITH THE APPLICANT'S CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS, MATERIALS PER PLANS AND SPECIFICATIONS TO THE APPLICANT FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY TO THE SITE. ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW.
6. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDED SEQUENCE OF CONSTRUCTION NOTES PROVIDED ON THE EROSION CONTROL PLAN OR SUBMIT AN ALTERNATE PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO CONSTRUCTION.
7. SHOULD ANY UNKNOWN OR INCORRECTLY LOCATED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
8. DO NOT INTERRUPT EXISTING UTILITIES SERVICING FACILITIES OCCUPIED AND USED BY THE APPLICANT OR OTHERS DURING OCCUPIED HOURS, EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE APPLICANT AND THE LOCAL MUNICIPALITY. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY SERVICE HAS BEEN PROVIDED.
9. THE CONTRACT LIMIT IS THE PROPERTY LINE UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE CONTRACT DRAWINGS.
10. THE CONTRACTOR SHALL ABIDE BY ALL OSHA, FEDERAL, STATE AND LOCAL REGULATIONS WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN CLOSE PROXIMITY TO OVERHEAD ELECTRIC LINES. IF CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO ELECTRIC LINES, CONTACT POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS. ANY UTILITY COMPANY FEES SHALL BE PAID FOR BY THE CONTRACTOR.
11. THE CONTRACTOR SHALL COMPLY WITH OSHA CFR 29 PART 1926 FOR EXCAVATION TRENCHING AND TRENCH PROTECTION REQUIREMENTS.
12. THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, CONDUIT, PAVEMENT, CURBING, SIDEWALKS, LANDSCAPED AREAS OR SIGNAGE DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AS APPROVED BY THE ENGINEER.
13. THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORDS OF ALL CONSTRUCTION (INCLUDING UNDERGROUND UTILITIES) TO THE APPLICANT AT THE END OF CONSTRUCTION.
14. THE ENGINEER IS NOT RESPONSIBLE FOR SITE SAFETY MEASURES TO BE EMPLOYED DURING CONSTRUCTION. THE ENGINEER HAS NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK, JOB SITE RESPONSIBILITIES, SUPERVISION OF PERSONNEL OR TO SUPERVISE SAFETY AND DO NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
15. EXISTING TOPOGRAPHY IS BASED ON CAD FILE PROVIDED BY BASCOM & BENJAMIN, LLC ON 11/13/2017
16. ALTERNATIVE METHODS AND PRODUCTS, OTHER THAN THOSE SPECIFIED, MAY BE USED IF REVIEWED AND APPROVED BY THE APPLICANT, ENGINEER, AND APPROPRIATE REGULATORY AGENCY PRIOR TO INSTALLATION DURING THE BIDDING/CONSTRUCTION PROCESS.
17. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" 72 HOURS BEFORE COMMENCEMENT OF WORK AT "1-800-922-4455" AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS.
18. THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF SECTION 22A-174-18(b)(3)(c) OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES THAT LIMIT IDLING OF MOBILE SOURCES TO THREE MINUTES.
19. THE CONTRACTOR SHALL USE OFF-ROAD CONSTRUCTION EQUIPMENT THAT MEETS THE LATEST EPA OR CALIFORNIA AIR RESOURCES BOARD OF STANDARDS. IF NOT ABLE TO MEET THESE, THE CONTRACTORS EQUIPMENT SHALL HAVE THE BEST AVAILABLE CONTROLS ON DIESEL EMISSIONS INCLUDING BUT NOT LIMITED TO RETRO-FITTING WITH DIESEL OXIDATION CATALYSTS PARTICULATE FILTERS AND USE OF ULTRA LOW SULFUR FUEL.
20. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
21. THE CENTER OF THE EXISTING PROPERTY IS LOCATED WITHIN A FEMA DESIGNATED FLOOD HAZARD AREA. THE ELECTRICAL INTERCONNECTION WILL CROSS THROUGH THIS AREA.
22. THERE ARE WETLANDS LOCATED ON THE SITE AS INDICATED ON THE PLANS. WETLAND BOUNDARIES WERE FLAGGED AND LOCATED BY ERIC DAVISON, A CONNECTICUT REGISTERED PROFESSIONAL SOIL SCIENTIST, ON OCTOBER 17, 2017.

GRADING AND DRAINAGE NOTES

1. REFER TO SITE PLANS AND EROSION AND SEDIMENT CONTROL PLANS, FOR GENERAL INFORMATION, AND DETAIL SHEETS FOR DETAILS.
2. THE CONTRACTOR SHALL PRESERVE EXISTING VEGETATION WHERE POSSIBLE AND/OR AS NOTED ON THE DRAWINGS. REFER TO EROSION CONTROL PLAN FOR LIMIT OF DISTURBANCE AND EROSION CONTROL NOTES.
3. TOPSOIL SHALL BE STRIPPED AND STOCKPILED ON SITE WHERE EARTHWORK IS REQUIRED FOR USE IN FINAL LANDSCAPING.
4. VERTICAL DATUM IS NGV DATUM 88.
5. CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD AND APPROVED BY THE APPLICANT PRIOR TO THE START OF WORK ON THE SITE.
6. PROPER CONSTRUCTION PROCEDURES SHALL BE FOLLOWED ON ALL IMPROVEMENTS WITHIN THIS PARCEL SO AS TO PREVENT THE SILTING OF ANY WATERCOURSE OR WETLANDS IN ACCORDANCE WITH THE REGULATIONS 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT POLLUTION CONTROL MANUAL. IN ADDITION, THE CONTRACTOR SHALL STRICTLY ADHERE TO THE "EROSION CONTROL PLAN" CONTAINED HEREIN. THE APPLICANT SHALL BE RESPONSIBLE TO POST ALL BONDS AS REQUIRED BY GOVERNMENT AGENCIES WHICH WOULD GUARANTEE THE PROPER IMPLEMENTATION OF THE PLAN.
7. ALL SITE WORK, MATERIALS OF CONSTRUCTION, AND CONSTRUCTION METHODS FOR EARTHWORK AND STORM DRAINAGE WORK, SHALL CONFORM TO THE SPECIFICATIONS AND DETAILS AND APPLICABLE SECTIONS OF THE PROJECT SPECIFICATIONS MANUAL. OTHERWISE THIS WORK SHALL CONFORM TO THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION AND PROJECT GEOTECHNICAL REPORT IF THERE IS NO PROJECT SPECIFICATIONS MANUAL. ALL FILL MATERIAL UNDER STRUCTURES AND PAVED AREAS SHALL BE PER THE ABOVE STATED APPLICABLE SPECIFICATIONS, AND/OR PROJECT GEOTECHNICAL REPORT, AND SHALL BE PLACED IN ACCORDANCE WITH THE APPLICABLE SPECIFICATIONS UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL ENGINEER. MATERIAL SHALL BE COMPACTED IN 6" LIFTS TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 1557 AT 95% PERCENT OF OPTIMUM MOISTURE CONTENT.
8. ALL DISTURBANCE INCURRED TO PUBLIC, MUNICIPAL, COUNTY, STATE PROPERTY DUE TO CONSTRUCTION SHALL BE RESTORED TO ITS PREVIOUS CONDITION OR BETTER, TO THE SATISFACTION OF THE TOWN OF DURHAM AND STATE OF CONNECTICUT.
9. IF IMPACTED OR CONTAMINATED SOIL IS ENCOUNTERED BY THE CONTRACTOR, THE CONTRACTOR SHALL SUSPEND EXCAVATION WORK OF IMPACTED SOIL AND NOTIFY THE APPLICANT AND/OR APPLICANT'S ENVIRONMENTAL CONSULTANT PRIOR TO PROCEEDING WITH FURTHER WORK IN THE IMPACTED SOIL LOCATION UNTIL FURTHER INSTRUCTED BY THE APPLICANT AND/OR APPLICANT'S ENVIRONMENTAL CONSULTANT.



SEQUENCE OF CONSTRUCTION

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPS), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPS IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECPS EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECPS WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO THE COMPACTED SOIL AND FOLD THE REMAINING 12" PORTION OF RECPS BACK OVER THE SEED AND COMPACTED SOIL. SECURE RECPS OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECPS.
3. ROLL THE RECPS DOWN HORIZONTALLY ACROSS THE SLOPE. RECPS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL RECPS MUST BE STAPLED WITH APPROXIMATELY 2" - 5" OVERLAP DEPENDING ON THE RECPS TYPE.
5. CONSECUTIVE RECPS SPLICED DOWN THE SLOPE MUST BE END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECPS WIDTH.

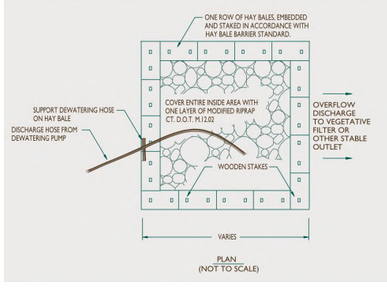
NOTES:

1. EROSION
2. PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE. EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN ROLL MAX BIONET SC150BN (OR APPROVED EQUAL).
3. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
4. BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
5. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
6. BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

2 / DN-3 EROSION CONTROL BLANKET
SCALE : N.T.S.

UTILITIES NOTES

1. CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE TOWN OF DURHAM TO SECURE CONSTRUCTION PERMITS AND FOR PAYMENT OF FEES FOR STREET CUTS AND CONNECTIONS TO EXISTING UTILITIES.
2. REFER TO DRAWINGS BY APPLICANT FOR INTERCONNECTION TO EXISTING ELECTRICAL GRID. SITE CONTRACTOR SHALL SUPPLY AND INSTALL PIPE ADAPTERS AS NECESSARY AT BUILDING CONNECTION POINT OR AT EXISTING UTILITY OR PIPE CONNECTION POINT. THESE DETAILS ARE NOT INCLUDED IN THE THIS DEVELOPMENT AND MANAGEMENT PLANS.
3. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY THE ELEVATION AND LOCATION OF ALL UTILITIES BY VARIOUS MEANS PRIOR TO BEGINNING ANY EXCAVATION. TEST PITS SHALL BE DUG AT ALL LOCATIONS WHERE PROP. SANITARY SEWERS AND WHERE PROP. STORM PIPING WILL CROSS EXISTING UTILITIES, AND THE HORIZONTAL AND VERTICAL LOCATIONS OF THE UTILITIES SHALL BE DETERMINED. THE CONTRACTOR SHALL CONTACT THE ENGINEER IN THE EVENT OF ANY DISCOVERED OR UNFORESEEN CONFLICTS BETWEEN EXISTING AND PROP. SANITARY SEWERS, STORM PIPING AND UTILITIES SO THAT AN APPROPRIATE MODIFICATION MAY BE MADE.
4. UTILITY CONNECTION DESIGN AS REFLECTED ON THE PLAN MAY CHANGE SUBJECT TO UTILITY PROVIDER AND GOVERNING AUTHORITY STAFF REVIEW.
5. THE CONTRACTOR SHALL ENSURE THAT ALL UTILITY PROVIDERS AND GOVERNING AUTHORITY STANDARDS FOR MATERIALS AND CONSTRUCTION METHODS ARE MET. THE CONTRACTOR SHALL PERFORM PROPER COORDINATION WITH THE RESPECTIVE UTILITY PROVIDER.
6. THE CONTRACTOR SHALL ARRANGE FOR AND COORDINATE WITH THE RESPECTIVE UTILITY PROVIDERS FOR SERVICE INSTALLATIONS AND CONNECTIONS. THE CONTRACTOR SHALL COORDINATE WORK TO BE PERFORMED BY THE VARIOUS UTILITY PROVIDERS AND SHALL PAY ALL FEES FOR CONNECTIONS, DISCONNECTIONS, RELOCATIONS, INSPECTIONS, AND DEMOLITION UNLESS OTHERWISE STATED IN THE PROJECT SPECIFICATIONS MANUAL AND/OR GENERAL CONDITIONS OF THE CONTRACT.
7. ALL EXISTING PAVEMENT WHERE UTILITY PIPING IS TO BE INSTALLED SHALL BE SAW CUT. AFTER UTILITY INSTALLATION IS COMPLETED, THE CONTRACTOR SHALL INSTALL TEMPORARY AND/OR PERMANENT PAVEMENT REPAIR AS DETAILED ON THE DRAWINGS OR AS REQUIRED BY THE APPLICANT HAVING JURISDICTION.
8. ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
9. RELOCATION OF UTILITY PROVIDER FACILITIES, SUCH AS POLES, SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY PROVIDER.
10. THE CONTRACTOR SHALL COMPACT PIPE BACKFILL IN 8" LIFTS ACCORDING TO THE PIPE BEDDING DETAILS. TRENCH BOTTOM SHALL BE STABLE IN HIGH GROUNDWATER AREAS. A PIPE FOUNDATION SHALL BE USED PER THE TRENCH DETAILS AND IN AREAS OF ROCK EXCAVATION.
11. CONTRACTOR TO PROVIDE STEEL SLEEVES AND ANNULAR SPACE SAND FILL FOR UTILITY PIPE AND CONDUIT CONNECTIONS UNDER FOOTINGS.
12. BUILDING UTILITY PENETRATIONS AND LOCATIONS ARE SHOWN FOR THE CONTRACTOR'S INFORMATION AND SHALL BE VERIFIED WITH THE BUILDING MEP DRAWINGS AND WITH THE APPLICANT'S CONSTRUCTION MANAGER.
13. ALL UTILITY CONSTRUCTION IS SUBJECT TO INSPECTION FOR APPROVAL PRIOR TO BACKFILLING, IN ACCORDANCE WITH THE APPROPRIATE UTILITY PROVIDER REQUIREMENTS.
14. A ONE-FOOT MINIMUM VERTICAL CLEARANCE BETWEEN WATER, GAS, ELECTRICAL, AND TELEPHONE LINES AND STORM PIPING SHALL BE PROVIDED. A SIX-INCH MINIMUM CLEARANCE SHALL BE MAINTAINED BETWEEN STORM PIPING AND SANITARY SEWER. A 6-INCH TO 18-INCH VERTICAL CLEARANCE BETWEEN SANITARY SEWER PIPING AND STORM PIPING SHALL REQUIRE CONCRETE ENCASEMENT OF THE PROP. SANITARY PIPING.
15. SITE CONTRACTOR SHALL PROVIDE ALL BENDS, FITTINGS, ADAPTERS, ETC., AS REQUIRED FOR PIPE CONNECTIONS TO BUILDING STUB OUTS, INCLUDING ROOF/FOOTING DRAIN CONNECTIONS TO ROOF LEADERS AND TO STORM DRAINAGE SYSTEM.
16. THE CONTRACTOR SHALL RESTORE ANY UTILITY STRUCTURE, PIPE, CONDUIT, PAVEMENT, CURBING, SIDEWALKS, DRAINAGE STRUCTURE, SWALE OR LANDSCAPED AREAS DISTURBED DURING CONSTRUCTION, TO THEIR ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE APPLICANT AND TOWN OF DURHAM.
17. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY, AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE INCLUDING SERVICES. CONTACT "CALL BEFORE YOU DIG" AT (800) 922-4455 72 HOURS PRIOR TO CONSTRUCTION AND VERIFY ALL UNDERGROUND AND OVERHEAD UTILITY AND STORM DRAINAGE LOCATIONS. THE CONTRACTOR SHALL EMPLOY THE USE OF A UTILITY LOCATING COMPANY TO PROVIDE SUBSURFACE UTILITY ENGINEERING CONSISTING OF DESIGNATING UTILITIES AND STORM PIPING ON PRIVATE PROPERTY WITHIN THE CONTRACT LIMIT AND CONSISTING OF DESIGNATING AND LOCATING WHERE PROP. UTILITIES AND STORM PIPING CROSS EXISTING UTILITIES AND STORM PIPING WITHIN THE CONTRACT LIMITS.
18. THE CONTRACTOR SHALL ARRANGE AND COORDINATE WITH UTILITY PROVIDERS FOR WORK TO BE PERFORMED BY UTILITY PROVIDERS. THE CONTRACTOR SHALL PAY ALL UTILITY FEES UNLESS OTHERWISE STATED IN THE PROJECT SPECIFICATION MANUAL AND GENERAL CONDITIONS, AND REPAIR PAVEMENTS AS NECESSARY.
19. ELECTRIC SERVICES SHALL BE INSTALLED UNDERGROUND. THE CONTRACTOR SHALL PROVIDE AND INSTALL AND BACKFILL PVC CONDUITS FOR ELECTRIC SERVICE. REFER TO ELECTRICAL PLANS AND WIRE SCHEDULE FOR ACTUAL NUMBER AND LOCATION OF CONDUITS. SERVICES MAY BE INSTALLED IN A COMMON TRENCH WITH 12" CLEAR SPACE BETWEEN. MINIMUM COVER IS 36" ON ELECTRIC CONDUITS. SERVICES SHALL BE MARKED WITH MAGNETIC LOCATOR TAPE AND SHALL BE BEDDED, INSTALLED, AND BACKFILLED IN ACCORDANCE WITH ELECTRIC UTILITY PROVIDER COMPANY STANDARDS. GALVANIZED STEEL ELECTRICAL CONDUIT SHALL BE USED AT POLE AND TRANSFORMER LOCATIONS. INSTALL HANDHOLES AS REQUIRED TO FACILITATE INSTALLATION AND AS REQUIRED BY UTILITY PROVIDER. INSTALL CONCRETE ENCASEMENT ON PRIMARY ELECTRIC CONDUITS IF REQUIRED BY ELECTRIC PROVIDER.
20. ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF REVIEWED AND APPROVED BY THE APPLICANT, ENGINEER, AND APPROPRIATE REGULATORY AGENCIES PRIOR TO INSTALLATION.
21. THE CONTRACTOR SHALL MAINTAIN ALL FLOWS AND UTILITY CONNECTIONS TO EXISTING BUILDINGS WITHOUT INTERRUPTION UNLESS/UNTIL AUTHORIZED TO DISCONNECT BY THE APPLICANTS, THE CIVIL ENGINEER, UTILITY PROVIDERS AND GOVERNING AUTHORITIES.



1 / DN-3 DEWATERING STRAW BALE BASIN
SCALE : N.T.S.

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CSC PETITION

NO	DATE	REVISION
0	01/22/18	FOR REVIEW: BJP
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6		

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
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SITE ADDRESS: 201 MAIN STREET DURHAM, CT 06422

APT FILING NUMBER: CT528100

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DATE: 1/22/2018 CHECKED BY: BJP

SHEET TITLE:
NOTES & SPECIFICATIONS

SHEET NUMBER:
DN-3

ENVIRONMENTAL NOTES

BALL BROOK PROTECTION AND RESTORATION PROGRAM

IN ORDER TO PROVIDE A UTILITY INTERCONNECTION BETWEEN THE DURHAM MFG. FACILITY AND THE PROPOSED SOLAR FACILITY, THE PROPOSED UNDERGROUND UTILITY ROUTE REQUIRES CROSSING OF BALL BROOK. AS A RESULT, TEMPORARY DISTURBANCE TO BALL BROOK AND ITS BANKS WILL RESULT FROM TRENCHING ACTIVITIES TO INSTALL THE PROPOSED UNDERGROUND UTILITIES. THE FOLLOWING PROTECTIVE MEASURES AND RESTORATION ACTIVITIES SHALL BE FOLLOWED TO HELP AVOID DEGRADATION OF BALL BROOK AND DOWNSTREAM RESOURCES AND PROPERLY RESTORE THE STREAMBED AND BANKS.

IT IS OF THE UTMOST IMPORTANCE THAT THE CONTRACTOR COMPLIES WITH THE REQUIREMENT FOR THE INSTALLATION OF PROTECTIVE MEASURES, RESTORATION OF AFFECTED BALL BROOK AND THE EDUCATION OF ITS EMPLOYEES AND SUBCONTRACTORS PERFORMING WORK ON THE PROJECT SITE. THESE MEASURES WILL ALSO PROVIDE PROTECTION TO AND PROPERLY RESTORE THE PORTION OF BALL BROOK THAT WILL BE TEMPORARILY AFFECTED BY THE PROPOSED UNDERGROUND UTILITY TRENCHING WORK. ALL-POINTS TECHNOLOGY CORPORATION, P.C. ("APT") WILL SERVE AS THE ENVIRONMENTAL MONITOR FOR THIS PROJECT TO ENSURE THAT BALL BROOK PROTECTION AND RESTORATION MEASURES ARE IMPLEMENTED PROPERLY. THE CONTRACTOR SHALL CONTACT DEAN GUSTAFSON, SENIOR WETLAND SCIENTIST AT APT AT LEAST 5 BUSINESS DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING. MR. GUSTAFSON CAN BE REACHED BY PHONE AT (860) 984-9515 OR VIA EMAIL AT DGUSTAFSON@ALLPOINTSTECH.COM.

IN ADDITION, BRIAN D. MURPHY, SENIOR FISHERIES HABITAT BIOLOGIST OF THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION'S FISHERIES DIVISION SHALL BE CONTACTED AT LEAST 5 BUSINESS DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING. MR. MURPHY CAN BE REACHED BY PHONE AT (860) 295-9523 OR VIA EMAIL AT BRIAN.MURPHY@CT.GOV.

THE BALL BROOK PROTECTION AND RESTORATION PROGRAM CONSISTS OF SEVERAL COMPONENTS: USE OF APPROPRIATE EROSION CONTROL MEASURES TO CONTROL AND CONTAIN EROSION WHILE AVOIDING/MINIMIZING WILDLIFE ENTANGLEMENT; PERIODIC INSPECTION AND MAINTENANCE OF EROSION CONTROL MEASURES; EDUCATION OF ALL CONTRACTORS AND SUB-CONTRACTORS PRIOR TO INITIATION OF WORK ON THE SITE; BALL BROOK PROTECTIVE MEASURES; BALL BROOK RESTORATION MEASURES, AND, REPORTING.

1. CONTRACTOR EDUCATION
   - A. PRIOR TO WORK ON SITE, THE CONTRACTOR SHALL ATTEND AN EDUCATIONAL SESSION AT THE PRE-CONSTRUCTION MEETING WITH APT. THIS ORIENTATION AND EDUCATIONAL SESSION WILL CONSIST OF AN INTRODUCTORY MEETING WITH APT TO UNDERSTAND THE ENVIRONMENTALLY SENSITIVE NATURE OF THE DEVELOPMENT SITE AND THE NEED TO FOLLOW PROTECTIVE MEASURES AND RESTORATION MEASURES AS DESCRIBED IN SECTION 3 BELOW.
2. EROSION AND SEDIMENTATION CONTROLS
   - A. ALL EROSION AND SEDIMENTATION CONTROLS SHALL CONFORM TO THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, DEP BULLETIN 34.
   - B. PLASTIC NETTING USED IN A VARIETY OF EROSION CONTROL PRODUCTS (I.E., EROSION CONTROL BLANKETS, FIBER ROLLS [WATTLES], REINFORCED SILT FENCE) HAS BEEN FOUND TO ENTANGLE WILDLIFE, INCLUDING REPTILES, AMPHIBIANS, BIRDS AND SMALL MAMMALS. NO PERMANENT EROSION CONTROL PRODUCTS OR REINFORCED SILT FENCE WILL BE USED ON THE PROJECT. TEMPORARY EROSION CONTROL PRODUCTS WILL USE EITHER EROSION CONTROL BLANKETS AND FIBER ROLLS COMPOSED OF PROCESSED FIBERS MECHANICALLY BOUND TOGETHER TO FORM A CONTINUOUS MATRIX (NET LESS) OR NETTING COMPOSED OF PLANAR WOVEN NATURAL BIODEGRADABLE FIBER TO AVOID/MINIMIZE WILDLIFE ENTANGLEMENT.
   - C. INSTALLATION OF SILT FENCING AND/OR OTHER EROSION CONTROL DEVICES (I.E., STRAW WATTLES, COMPOST FILTER SOCKS, ETC.) SHALL BE PERFORMED BY THE CONTRACTOR PRIOR TO ANY EARTHWORK. APT WILL INSPECT THE WORK ZONE AREA PRIOR TO AND FOLLOWING EROSION CONTROL INSTALLATION TO ENSURE DEVICES ARE PROPERLY INSTALLED.
   - D. SILT FENCING SHALL CONSIST OF NON-REINFORCED CONVENTIONAL EROSION CONTROL WOVEN FABRIC, INSTALLED APPROXIMATELY SIX INCHES BELOW SURFACE GRADE AND STAKED AT SEVEN TO TEN-FOOT INTERVALS USING FOUR-FOOT OAK STAKES OR APPROVED EQUIVALENT. THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTIONS OF THE SEDIMENTATION AND EROSION CONTROLS FOR TEARS OR BREECHES AND ACCUMULATION LEVELS OF SEDIMENT, PARTICULARLY FOLLOWING STORM EVENTS THAT GENERATE A DISCHARGE. THE ENVIRONMENTAL MONITOR WILL PROVIDE PERIODIC INSPECTIONS OF THE SEDIMENTATION AND EROSION CONTROLS THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES ONLY AS IT PERTAINS TO PROTECTION OF BALL BROOK AND NEARBY WETLANDS. SWPCP MONITOR WILL BE RESPONSIBLE FOR REQUIRED INSPECTIONS FOR THE ENTIRE SITE INCLUDING BALL BROOK.
   - E. THE EXTENT OF EROSION CONTROLS WILL BE AS SHOWN ON THE SITE PLANS. THE CONTRACTOR SHALL HAVE ADDITIONAL SEDIMENTATION AND EROSION CONTROLS STOCKPILED ON SITE SHOULD FIELD OR CONSTRUCTION CONDITIONS WARRANT EXTENDING DEVICES. IN ADDITION TO THE CONTRACTOR MAKING THESE DETERMINATIONS, REQUESTS FOR ADDITIONAL CONTROLS WILL ALSO BE AT THE DISCRETION OF THE ENVIRONMENTAL MONITOR.
   - F. NO EQUIPMENT, VEHICLES OR CONSTRUCTION MATERIALS SHALL BE STORED OUTSIDE OF THE SILT FENCE OR WITHIN 50 FEET OF WETLANDS OR WATERCOURSES.
   - G. ALL SILT FENCING AND OTHER EROSION CONTROL DEVICES SHALL BE REMOVED WITHIN 30 DAYS OF COMPLETION OF WORK AND PERMANENT STABILIZATION OF SITE SOILS SO THAT REPTILE AND AMPHIBIAN MOVEMENT BETWEEN UPLANDS AND WETLANDS IS NOT RESTRICTED. IF FIBER ROLLS/WATTLES, STRAW BALES, OR OTHER MATERIAL EROSION CONTROL PRODUCTS ARE USED, SUCH DEVICES WILL NOT BE LEFT IN PLACE TO BIODEGRADE AND SHALL BE PROMPTLY REMOVED AFTER SOILS ARE STABLE SO AS NOT TO CREATE A BARRIER TO MIGRATING WILDLIFE. SEED FROM SEEDING OF SOILS SHOULD NOT SPREAD OVER FIBER ROLLS/WATTLES AS IT MAKES THEM HARDER TO REMOVE ONCE SOILS ARE STABILIZED BY VEGETATION.
3. BALL BROOK RESTORATION MEASURES
   - A. FLAG OR FENCE PROJECT LIMITS OF DISTURBANCE WITHIN BALL BROOK AND AREAS WITHIN 100 FEET OF BALL BROOK PRIOR TO ANY IN-STREAM WORK.
   - B. LOCATE STAGING AREAS AND ACCESS POINTS. STAGING AREAS SHOULD BE LOCATED AT LEAST 50 FEET FROM THE EDGE OF BALL BROOK. INSTALL SEDIMENT BARRIERS DOWN SLOPE OF ANY STAGING AREAS OR ACCESS POINTS.
   - C. SWAMP MATS, TIMBER MATS, TRUCK MATS OR SIMILAR DEVICES SHALL BE USED ALONG THE BANKS OF BALL BROOK (NO EQUIPMENT WOULD CROSS THE BROOK) DURING THE TEMPORARY UTILITY CROSSING WORK TO MINIMIZE RUTTING OF SOILS OR DESTABILIZATION OF STREAM BANKS, AS NECESSARY AND AS FIELD CONDITIONS DICTATE. SUCH DEVICES, IF REQUIRED, SHALL BE INSTALLED PRIOR TO CLEARING, GRUBBING OR EXCAVATION ACTIVITIES.
   - D. CLEARING, GRUBBING AND UTILITY TRENCHING ACTIVITIES MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE EROSION AND SEDIMENTATION CONTROLS SPECIFIED BY THIS PROTECTION PLAN AND AS DETAILED ON THE PROJECT SITE PLANS HAVE BEEN INSTALLED AND HAVE BEEN REVIEWED AND APPROVED BY THE ENVIRONMENTAL MONITOR TO ENSURE EROSION CONTROLS ARE PROPERLY INSTALLED.
   - E. SOIL EXCAVATED FROM THE STREAMBED AND BANKS OF BALL BROOK SHALL BE CAREFULLY REMOVED. THESE SOILS SHOULD BE PLACED IN SEPARATE STOCKPILES ON GEOTEXTILE FABRIC TO BE REUSED DURING THE STREAMBED AND BANK RESTORATION WORK. BOTH TOPSOIL AND SUBSOIL SHALL BE SEGREGATED INTO SEPARATE STOCKPILES.
   - F. SHOULD IT BE NECESSARY, DEWATERING OF THE UTILITY TRENCH EXCAVATION SHALL BE PUMPED TO A SEDIMENT FILTER BAG OR TEMPORARY SEDIMENT BASIN, FOLLOWING REQUIREMENTS AS NOTED IN THE SECTION 2.A.
   - G. INSTALL PIPE AND TRENCH PLUGS ALONG BOTH STREAM BANKS TO PREVENT THE TRENCH FROM ALTERING THE HYDROLOGY OF BALL BROOK, SEE DETAIL 3/DN-4.
   - H. BACKFILL PIPE TRENCH. STREAMBANK: BACKFILL FIRST WITH STOCKPILED SUBSOIL, WITH THE TOP 12-INCHES OF THE EXCAVATED TRENCH FILLED WITH THE STOCKPILED TOPSOIL TO MATCH ORIGINAL SURFACE GRADES. STREAMBED: BACKFILL FIRST WITH STOCKPILE SUBSOIL, WITH THE TOP 12-INCHES OF EXCAVATED TRENCH FILLED WITH THE STOCKPILED STREAMBED MATERIAL TO MATCH UPSTREAM AND DOWNSTREAM GRADES WITHIN BALL BROOK.
   - I. NO SOIL AMENDMENTS SUCH AS AGRICULTURAL LIME, FERTILIZER, ETC. WILL BE USED.
   - J. COMPACT BACKFILL AND GRADE THE SURFACE OF THE TRENCH AREA TO ALLOW FOR POSITIVE DRAINAGE TO SOIL EROSION AND SEDIMENT CONTROLS AND TO PREPARE DISTURBED AREAS FOR PERMANENT TRENCH RESTORATION.
   - K. ORIGINAL GRADES THROUGH WETLANDS MUST BE RESTORED AFTER TRENCHING AND BACKFILLING. ANY EXCESS FILL MATERIALS MUST BE REMOVED FROM THE WORK AREA AND SHALL NOT BE SPREAD WITHIN 100 FEET OF WETLANDS OR WATERCOURSES.
   - L. ALL PLANT MATERIALS AND SEED MIXES SHALL REQUIRED FOR BANK RESTORATION BE OBTAINED FROM A NURSERY THAT SPECIALIZES IN NATIVE ECOLOGICAL PLANTINGS. ALL MATERIALS MUST BE INSPECTED AND APPROVED BY THE ENVIRONMENTAL MONITOR PRIOR TO BEING PLANTED.
   - M. PRIOR TO INSTALLING THE BANK RESTORATION PLANTINGS, ANY OCCURRENCES OF MULTIFLORA ROSE (ROSA MULTIFLORA) SHALL BE REMOVED BY HAND PULLING OR USE OF A WEED WRENCH OR SIMILAR DEVICE TO MINIMIZE SOIL DISTURBANCE.
   - N. BANK RESTORATION PLANTINGS WILL BE INSTALLED IN HAND-DUG HOLES RANDOMLY SPACED ON EITHER BANK OF BALL BROOK AS DIRECTED BY THE ENVIRONMENTAL MONITOR WITH MULCH SPREAD AROUND EACH PLANT.
   - O. PLANT NATIVE SHRUBS ALONG THE TOPS OF BOTH STREAMBANKS IN ACCORDANCE WITH THE BALL BROOK BANK RESTORATION PLANTING SCHEDULE, SEE DETAIL 1/DN-4. MULCH PLANTED BANKS WITH NON-WOVEN NATURAL FIBER EROSION CONTROL BLANKET OR 2 TO 3 INCHES OF CLEAN STRAW MULCH.
   - P. SEED DISTURBED ADJACENT UPLAND AREAS WITH A NEW ENGLAND SEMI-SHADE GRASS AND FORBS MIX (NEW ENGLAND WETLAND PLANTS, INC., OR APPROVED EQUIVALENT) AT THE MANUFACTURERS RECOMMENDED SEED RATE. MULCH DISTURBED AREAS WITH NON-WOVEN NATURAL FIBER EROSION CONTROL BLANKET, SEE DETAIL 2/DN-3.
   - L. INSTALL COIR LOGS ALONG BOTH DISTURBED STREAMBANKS, EXTENDING ±10 FEET UPSTREAM AND DOWNSTREAM FROM THE LIMITS OF DISTURBANCE.
   - M. MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL DEVICES UNTIL SITE WORK IS COMPLETE AND A UNIFORM 70% PERENNIAL VEGETATIVE COVER IS ESTABLISHED AS CONFIRMED THE ENVIRONMENTAL MONITOR.
   - N. REMOVE ALL SOIL AND EROSION SEDIMENT CONTROL MEASURES WITHIN 30 DAYS UPON ESTABLISHMENT OF A UNIFORM 70% VEGETATIVE COVER OVER THE DISTURBED AREA. RE-GRADE AND REVEGETATE AREAS DISTURBED DURING THE REMOVAL OF THE SOIL EROSION AND SEDIMENT CONTROLS.
4. PETROLEUM MATERIALS STORAGE AND SPILL PREVENTION
   - A. CERTAIN PRECAUTIONS ARE NECESSARY TO STORE PETROLEUM MATERIALS, REFUEL AND CONTAIN AND PROPERLY CLEAN UP ANY INADVERTENT FUEL OR PETROLEUM (I.E., OIL, HYDRAULIC FLUID, ETC.) SPILL DUE TO THE PROJECT'S LOCATION WITHIN AND PROXIMITY TO BALL BROOK.
   - B. A SPILL CONTAINMENT KIT CONSISTING OF A SUFFICIENT SUPPLY OF ABSORBENT PADS AND ABSORBENT MATERIAL WILL BE MAINTAINED BY THE CONTRACTOR AT THE CONSTRUCTION SITE THROUGHOUT THE DURATION OF THE PROJECT. IN ADDITION, A WASTE DRUM WILL BE KEPT ON SITE TO CONTAIN ANY USED ABSORBENT PADS/MATERIAL FOR PROPER AND TIMELY DISPOSAL OFF SITE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL LAWS.
   - C. THE FOLLOWING PETROLEUM AND HAZARDOUS MATERIALS STORAGE AND REFUELING RESTRICTIONS AND SPILL RESPONSE PROCEDURES WILL BE ADHERED TO BY THE CONTRACTOR.
     - i. PETROLEUM AND HAZARDOUS MATERIALS STORAGE AND REFUELING
       1. REFUELING OF VEHICLES OR MACHINERY SHALL OCCUR A MINIMUM OF 100 FEET FROM WETLANDS OR WATERCOURSES AND SHALL TAKE PLACE ON AN IMPERVIOUS PAD WITH SECONDARY CONTAINMENT DESIGNED TO CONTAIN FUELS.
       2. ANY FUEL OR HAZARDOUS MATERIALS THAT MUST BE KEPT ON SITE SHALL BE STORED ON AN IMPERVIOUS SURFACE UTILIZING SECONDARY CONTAINMENT A MINIMUM OF 100 FEET FROM WETLANDS OR WATERCOURSES.
     - ii. INITIAL SPILL RESPONSE PROCEDURES
       1. STOP OPERATIONS AND SHUT OFF EQUIPMENT.
       2. REMOVE ANY SOURCES OF SPARK OR FLAME.
       3. CONTAIN THE SOURCE OF THE SPILL.
       4. DETERMINE THE APPROXIMATE VOLUME OF THE SPILL.
       5. IDENTIFY THE LOCATION OF NATURAL FLOW PATHS TO PREVENT THE RELEASE OF THE SPILL TO SENSITIVE NEARBY WATERWAYS OR WETLANDS.
       6. ENSURE THAT FELLOW WORKERS ARE NOTIFIED OF THE SPILL.
     - iii. SPILL CLEAN UP & CONTAINMENT
       1. OBTAIN SPILL RESPONSE MATERIALS FROM THE ON-SITE SPILL RESPONSE KIT. PLACE ABSORBENT MATERIALS DIRECTLY ON THE RELEASE AREA.
       2. LIMIT THE SPREAD OF THE SPILL BY PLACING ABSORBENT MATERIALS AROUND THE PERIMETER OF THE SPILL.
       3. ISOLATE AND ELIMINATE THE SPILL SOURCE.
       4. CONTACT THE CONNECTICUT SITING COUNCIL ALONG WITH OTHER APPROPRIATE LOCAL, STATE AND/OR FEDERAL AGENCIES, AS NECESSARY.
       5. CONTACT A DISPOSAL COMPANY TO PROPERLY DISPOSE OF CONTAMINATED MATERIALS.
     - iv. REPORTING
       1. COMPLETE AN INCIDENT REPORT.
       2. SUBMIT A COMPLETED INCIDENT REPORT TO THE CONNECTICUT SITING COUNCIL. ALONG WITH OTHER APPROPRIATE LOCAL, STATE AND/OR FEDERAL AGENCIES, AS NECESSARY.
5. HERBICIDE AND PESTICIDE RESTRICTIONS
   - A. THE USE OF HERBICIDES AND PESTICIDES AT THE PROPOSED SOLAR FACILITY SHALL BE AVOIDED WHEN POSSIBLE. IN THE EVENT HERBICIDES AND/OR PESTICIDES ARE REQUIRED AT THE PROPOSED FACILITY, THEIR USE WILL BE USED IN ACCORDANCE WITH INTEGRATED PEST MANAGEMENT ("IPM") PRINCIPLES WITH PARTICULAR ATTENTION TO MINIMIZE APPLICATIONS WITHIN 100 FEET OF WETLAND OR WATERCOURSE RESOURCES. NO APPLICATIONS OF HERBICIDES OR PESTICIDES ARE ALLOWED WITHIN ACTUAL WETLAND OR WATERCOURSE RESOURCES.
6. REPORTING
   - A. FOR EACH INSPECTION PERFORMED, A COMPLIANCE MONITORING REPORTS (BRIEF NARRATIVE AND APPLICABLE PHOTOS) WILL BE SUBMITTED BY THE ENVIRONMENTAL MONITOR TO PFISTER ENERGY FOR COMPLIANCE VERIFICATION.
   - B. FOLLOWING COMPLETION OF THE CONSTRUCTION PROJECT, THE ENVIRONMENTAL MONITOR WILL PROVIDE A COMPLIANCE MONITORING SUMMARY REPORT TO PFISTER ENERGY DOCUMENTING IMPLEMENTATION OF THE BALL BROOK PROTECTION AND RESTORATION PROGRAM. PFISTER ENERGY WILL PROVIDE A COPY OF THE COMPLIANCE MONITORING SUMMARY REPORT TO THE CONNECTICUT SITING COUNCIL FOR COMPLIANCE VERIFICATION.

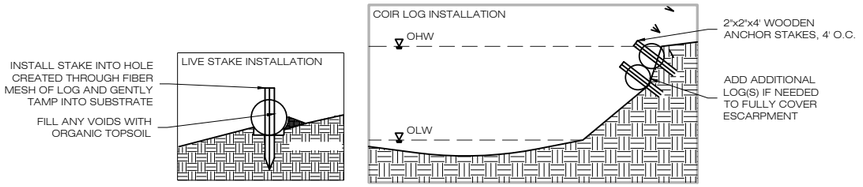
PLANTING SCHEDULE

QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE[1]
10	ALNUS INCANA	SPECKLED ALDER	#1
10	CORNUS SERICEA	RED-OSIER DOGWOOD	#1
10	SALIX DISCOLOR	PUSSYWILLOW	#1

NOTES:
1. NURSERY CONTAINER
2. SEED ALL DISTURBED/EXPOSED SOIL AREAS WITHIN ±25 FEET OF THE BANKS OF BALL BROOK WITH NEW ENGLAND SEMI-SHADE GRASS AND FORBS MIX PROVIDED BY NEW ENGLAND WETLAND PLANTS, INC., OR APPROVED EQUIVALENT. SEEDED AREAS WILL BE COVERED WITH A LIGHT MULCH OF WEED FREE STRAW.
3. IF TUBLINGS OR LIVE STAKES ARE USED, QUANTITIES WILL BE INCREASED BY 1.5X AND SOME PLANTINGS MAY OCCUR WITHIN THE COIR LOGS.
4. PLANTINGS WILL BE RANDOMLEY SPACED TO REPLICATE NATURAL CONDITIONS.

1 DN-4 BALL BROOK RESTORATION PLANTING SCHEDULE

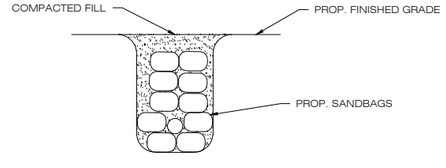
SCALE : N.T.S.



NOTES:
1. INSTALLATION AND PLANTING TO BE OBSERVED BY/REVIEWED WITH AN ENVIRONMENTAL SCIENTIST.
2. WATTLE TO BE FILLED WITH SEED-FREE WHEAT OR RICE STRAW.
3. PLACE LOG IN 2" DEEP TRENCH ALONG SLOPE OF EMBANKMENT.
4. INSTALL LIVE STAKES IN CLUMPS OF 2 TO 3 SPACED APPROXIMATELY EVER 10 LINEAR FEET.
5. FILTRATION TUBES (TERRA-TUBES OR APPROVED EQUAL) MAY BE USED IN PLACE OF COIR LOGS.

2 DN-4 COIR LOG DETAIL

SCALE : N.T.S.



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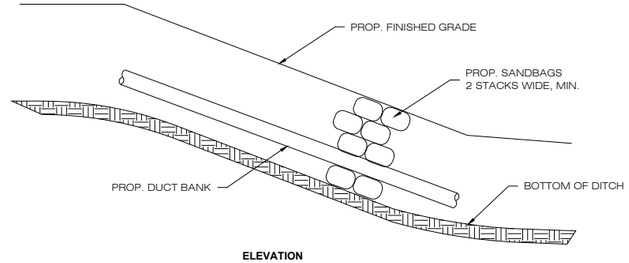

ELEVATION

3 DN-4 TRENCH PLUG DETAIL

SCALE : N.T.S.

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CSC PETITION

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5		
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DESIGN PROFESSIONAL OF RECORD

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APT FILING NUMBER: CT528100

DRAWN BY: ELZ/JT

DATE: 1/22/2018 CHECKED BY: BJP

SHEET TITLE:

ENVIRONMENTAL NOTES & SPECIFICATIONS

SHEET NUMBER:

DN-4

Attachment D

Solar Glare Hazard Report

for the solar project at:

Durham Manufacturing
201 Main Street
Durham, CT 06422

presented to:

Pfister Energy Inc.
57 Goffle Road
Hawthorne, NJ 07506

by:

PURE POWER ENGINEERING

5 Marine View Plaza, Suite 301
Hoboken, NJ 07030
www.purepower.com
(201)687-9975

May 3, 2018

Pure Power Engineering
5 Marine View Plaza
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Introduction

To ensure that the proposed project does not result in an impact on aviation safety as a result of the potential for glare and ocular impacts, a glare and ocular impact analysis has been completed for the following airport and proposed solar installation:

Airport:	Maplewood Farm Airport CT39 – 175R Tuttle Road, Durham, CT 06422
Solar installation:	Durham Manufacturing – 201 Main Street, Durham, CT 06422

The Forge Solar PV Planning & Glare Analysis Program was used to determine the potential for ocular impact of the proposed solar installation on the final approach paths. The final approach path is defined as two (2) miles from the landing threshold using a standard three (3) degree glide path. Ocular impact was analyzed over the entire calendar year from when the sun rises above the horizon until the sun sets below the horizon.

On the following pages, you will find the results of the Solar Glare Hazard Analysis for the following scenarios:

1. Final Approach Path, Flight Path 1 (From Southeast)
2. Final Approach Path, Flight Path 2 (From Northwest)

Summary of Findings

1. No potential for glare along the final approach path of Flight Path 1 (From Southeast)
2. Low potential for temporary after-image along the Final Approach Path for Flight Path 2 (From Northwest)

Should you have any questions or require any additional information, please do not hesitate to contact us.

Very truly yours,

PURE POWER ENGINEERING, INC.

Richard Ivins, P.E.
President

FORGESOLAR GLARE ANALYSIS

Project: **Durham Manufacturing Glare/Glint Study - Pfister Energy**
Proposed PV Sites in Proximity of Maplewood Farm Airport [CT39]

Site configuration: **Durham Manufacturing Solar Array-temp-0**
Analysis conducted by SCOTT Meacham (smeacham@purepower.com) at 17:39 on 03 May, 2018.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	PASS	Flight path receptor(s) do not receive yellow glare
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis and observer eye characteristics are as follows:

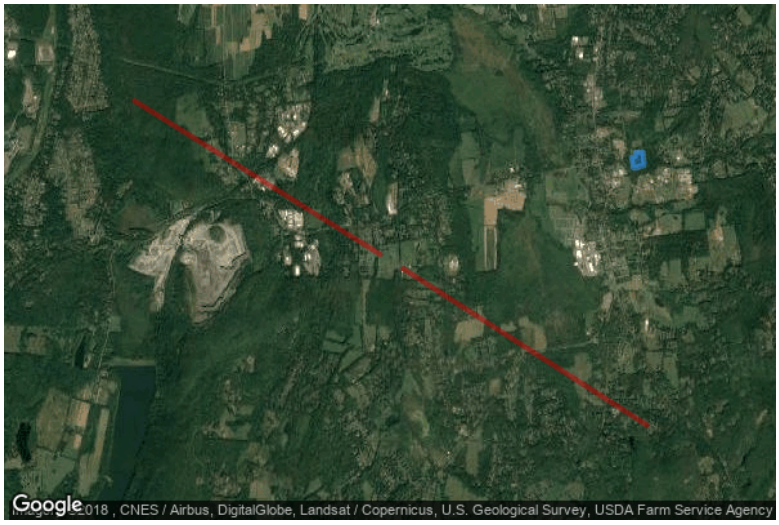
- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m^2
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 17860.2847



PV Array(s)

Name: PV Array System
Axis tracking: Fixed (no rotation)
Tilt: 30.0°
Orientation: 180.0°
Rated power: 1425.96 kW
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	41.479456	-72.676369	192.63	8.00	200.63
2	41.479499	-72.675387	195.43	8.00	203.43
3	41.478098	-72.675240	191.63	3.00	194.63
4	41.478060	-72.676036	196.91	3.00	199.91
5	41.477875	-72.676176	191.84	3.00	194.84
6	41.477895	-72.676696	195.05	3.00	198.05
7	41.478960	-72.676930	191.31	8.00	199.31
8	41.479026	-72.676431	194.85	8.00	202.85

Flight Path Receptor(s)

Name: Approach #1 (From Southeast)
Description:
Threshold height: 50 ft
Direction: °
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	41.467847	-72.707382	281.34	50.00	331.34
Two-mile	41.452244	-72.674860	340.58	544.21	884.79

Name: Approach #2 (From Northwest)
Description:
Threshold height: 50 ft
Direction: °
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	41.469275	-72.710455	262.28	50.00	312.28
Two-mile	41.484584	-72.743227	756.99	108.75	865.73

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt (°)	Orient (°)	"Green" Glare min	"Yellow" Glare min	Energy kWh
PV Array System	30.0	180.0	175	0	3,366,000.0

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
Approach #1 (From Southeast)	0	0
Approach #2 (From Northwest)	175	0

Results for: PV Array System

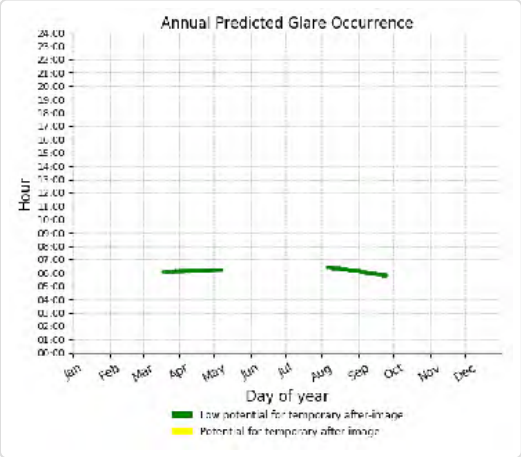
Receptor	Green Glare (min)	Yellow Glare (min)
Approach #1 (From Southeast)	0	0
Approach #2 (From Northwest)	175	0

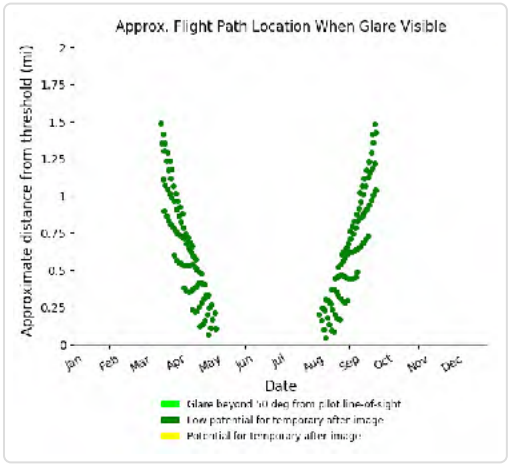
Flight Path: Approach #1 (From Southeast)

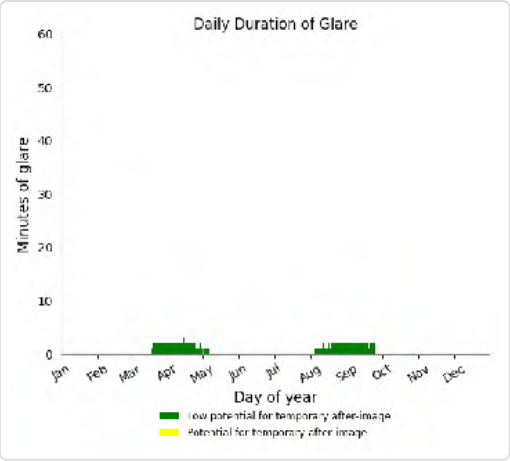
0 minutes of yellow glare
0 minutes of green glare

Flight Path: Approach #2 (From Northwest)

0 minutes of yellow glare
175 minutes of green glare







Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values may differ.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

Attachment E-1

Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2017.4.0

Add a New Case Off Airport for Wind Turbines - Met Towers - Desk Reference Guide V_2017.4.0

Project Name: ALL-P-000463753-18 **Sponsor:** All-Points Technology Corporation

Details for Case : Point 3- SW Corner of Proposed Development

Show Project Summary

Case Status

ASN:	2018-ANE-2798-OE	**Date Accepted:**	04/13/2018
Status:	Work In Progress	**Date Determined:**	
		Letters:	None
		Documents:	None
Public Comments:	None		Project Documents: None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	
Work Schedule - End:	

For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.

State Filing:

Structure Summary

Structure Type:	Solar Panel
Structure Name:	Point 3- SW Corner of Proposed Development
FDC NOTAM:	
NOTAM Number:	
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	41° 28' 40.78" N
Longitude:	72° 40' 35.55" W
Horizontal Datum:	NAD83
Site Elevation (SE):	189 (nearest foot) PASSED
Structure Height (AGL):	10 (nearest foot)
Current Height (AGL): ** For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal*	(nearest foot)
Minimum Operating Height (AGL): ** For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the minimum operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and minimum operating height are the same enter the same value in both fields.*	(nearest foot)
Requested Marking/Lighting:	None
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A Proposed Structure
Other :	
Nearest City:	Durham
Nearest State:	Connecticut
Description of Location: *On the Project Summary page upload any certified survey.*	The proposed solar energy facility is located S of Maiden Ln; + 1,300' E of RT 17; and + 1,000' W of Pickett Ln. Maplewood Farm Airport is located approx. 1.73 mile to the SW.
Description of Proposal:	Siting/permitting agency requiring applicant to obtain FAA Determination for project. Proposed facility includes the installation of numerous solar panels and support structures per attached site plan and figure. Support structures maximum height is 10' AGL.

Proposed Frequency Bands

Select any combination of the applicable frequencies/powers identified in the Colo Void Clause Coalition, Antenna System Co-Location, Voluntary Best Practices, effective 21 Nov 2007, to be evaluated by the FAA with your filing. If not within one of the frequency bands listed below, manually input your proposed frequency(ies) and power using the Add Specific Frequency link.

Add Specific Frequency

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Attachment E-2

Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2017.4.0

Add a New Case Off Airport for Wind Turbines - Met Towers - Desk Reference Guide V_2017.4.0

Project Name: ALL-P-000463729-18 **Sponsor:** All-Points Technology Corporation

Details for Case : Point 3 - SW Corner of Proposed Development

Show Project Summary

Case Status

ASN:	2018-ANE-2793-OE	**Date Accepted:**	04/13/2018
Status:	Work In Progress	**Date Determined:**	
		Letters:	None
		Documents:	None
Public Comments:	None		Project Documents: None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Temporary
if Temporary :	Months: 4 Days: 0
Work Schedule - Start:	06/15/2018
Work Schedule - End:	09/15/2018

For temporary cranes-Does the permanent structure require separate notice to the FAA?
To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed.
If it is not filed, please state the reason in the Description of Proposal.

State Filing:

Structure Summary

Structure Type:	Crane
Structure Name:	Point 3 - SW Corner of Proposed Development
FDC NOTAM:	
NOTAM Number:	
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	41° 28' 40.78" N
Longitude:	72° 40' 35.55" W
Horizontal Datum:	NAD83
Site Elevation (SE):	189 (nearest foot) PASSED
Structure Height (AGL):	22 (nearest foot)
Current Height (AGL): **** For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal***	(nearest foot)
Minimum Operating Height (AGL): **** For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the minimum operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and minimum operating height are the same enter the same value in both fields.***	22 (nearest foot)
Requested Marking/Lighting:	None
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A Proposed Structure
Other :	
Nearest City:	Durham
Nearest State:	Connecticut
Description of Location: ***On the Project Summary page upload any certified survey.***	The proposed solar energy facility is located S of Maiden Ln; + 1,300' E of RT 17; and + 1,000' W of Pickett Ln. Maplewood Farm Airport is located approx. 1.73 mile to the SW.
Description of Proposal:	Siting/permitting agency requiring applicant to obtain FAA Determination for project. Proposed facility includes the installation of numerous solar panels and support structures per attached site plan and figure. Crane to install support structures during construction, max. crane ht. is 22' AGL.

Proposed Frequency Bands

Select any combination of the applicable frequencies/powers identified in the Colo Void Clause Coalition, Antenna System Co-Location, Voluntary Best Practices, effective 21 Nov 2007, to be evaluated by the FAA with your filing. If not within one of the frequency bands listed below, manually input your proposed frequency(ies) and power using the Add Specific Frequency link.

Add Specific Frequency

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Attachment F-1

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-ANE-2798-OE

Issued Date: 04/30/2018

Michael P. Libertine
All-Points Technology Corporation
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 3- SW Corner of Proposed Development
Location:	Durham, CT
Latitude:	41-28-40.78N NAD 83
Longitude:	72-40-35.55W
Heights:	189 feet site elevation (SE)
	10 feet above ground level (AGL)
	199 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 1.

This determination expires on 10/30/2019 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

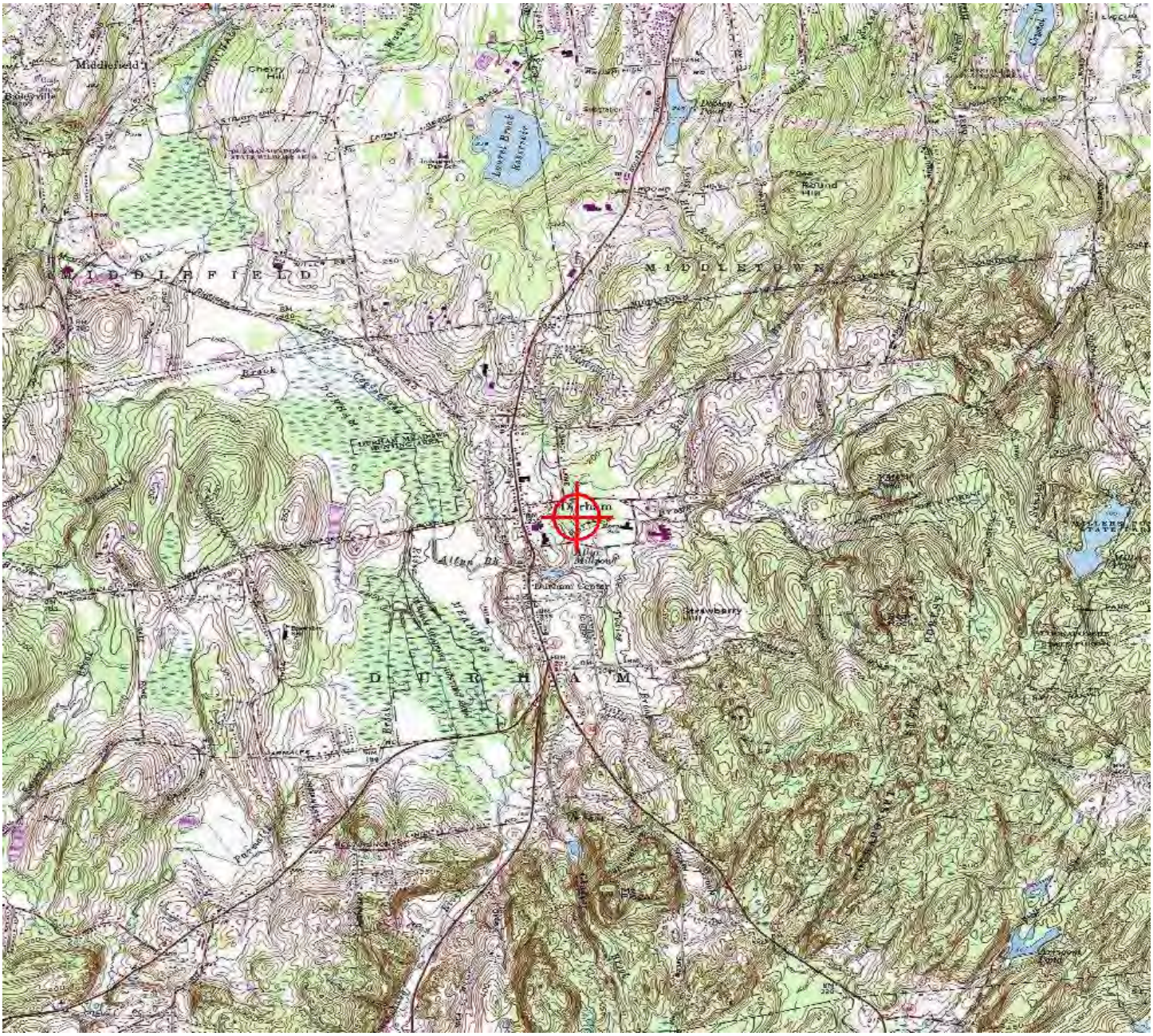
If we can be of further assistance, please contact our office at (202) 267-4525, or david.maddox@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-ANE-2798-OE.

Signature Control No: 362586062-363740816 (DNE)
David Maddox
Specialist

Attachment(s)
Case Description
Map(s)

Siting/permitting agency requiring applicant to obtain FAA Determination for project. Proposed facility includes the installation of numerous solar panels and support structures per attached site plan and figure. Support structures maximum height is 10' AGL.

TOPO Map for ASN 2018-ANE-2798-OE



Attachment F-2

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-ANE-2793-OE

Issued Date: 04/30/2018

Michael P. Libertine
All-Points Technology Corporation
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane Point 3 - SW Corner of Proposed Development
Location:	Durham, CT
Latitude:	41-28-40.78N NAD 83
Longitude:	72-40-35.55W
Heights:	189 feet site elevation (SE)
	22 feet above ground level (AGL)
	211 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (202) 267-4525, or david.maddox@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-ANE-2793-OE

Signature Control No: 362584560-363740481 (TMP)
David Maddox
Specialist

Additional Condition(s) or Information for ASN 2018-ANE-2793-OE

Proposal: To construct and/or operate a(n) Crane to a height of 22 feet above ground level, 212 feet above mean sea level.

Location: The structure will be located 7.12 nautical miles east of MMK Airport reference point.

Case Description for ASN 2018-ANE-2793-OE

Siting/permitting agency requiring applicant to obtain FAA Determination for project. Proposed facility includes the installation of numerous solar panels and support structures per attached site plan and figure. Crane to install support structures during construction, max. crane ht. is 22' AGL.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Preliminary FAA study indicates that the above mentioned structure would:
have no effect on any existing or proposed arrival, departure, or en route instrument flight rules (IFR) operations or procedures.
have no effect on any existing or proposed arrival, departure, or en route visual flight rules (VFR) operations.
have no effect on any existing or proposed arrival, departure, or en route instrument/visual flight rules (IFR/VFR) minimum flight altitudes.
not exceed traffic pattern airspace
have no physical or electromagnetic effect on the operation of air navigation and communications facilities.
have no effect on any airspace and routes used by the military.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, flag marker - Chapters 3(Marked)&12.

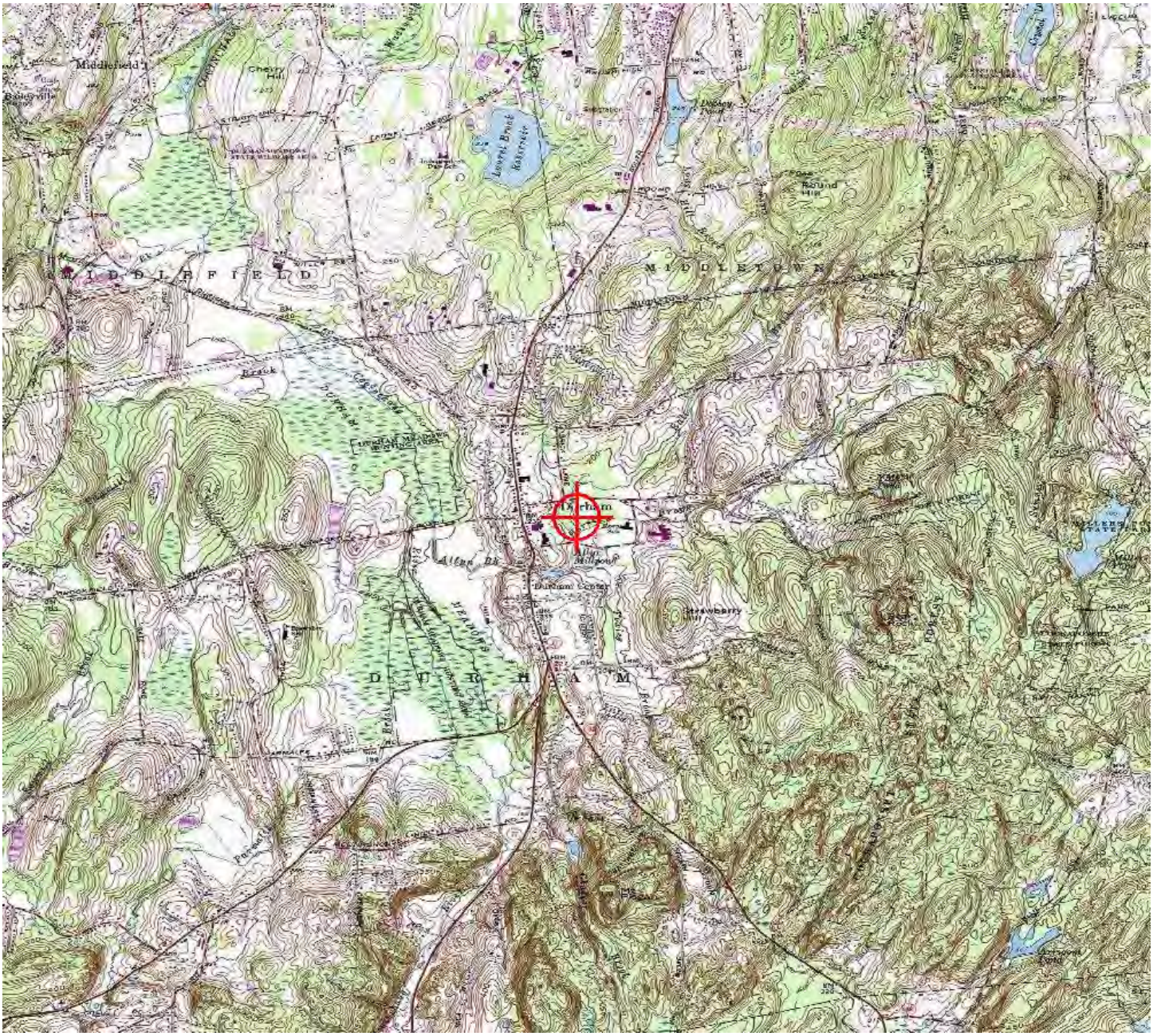
Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that the manager of MAPLEWOOD FARM, 860-349-8267 be notified at least 3 business days prior to the temporary structure being erected and again when the structure is removed from the site.

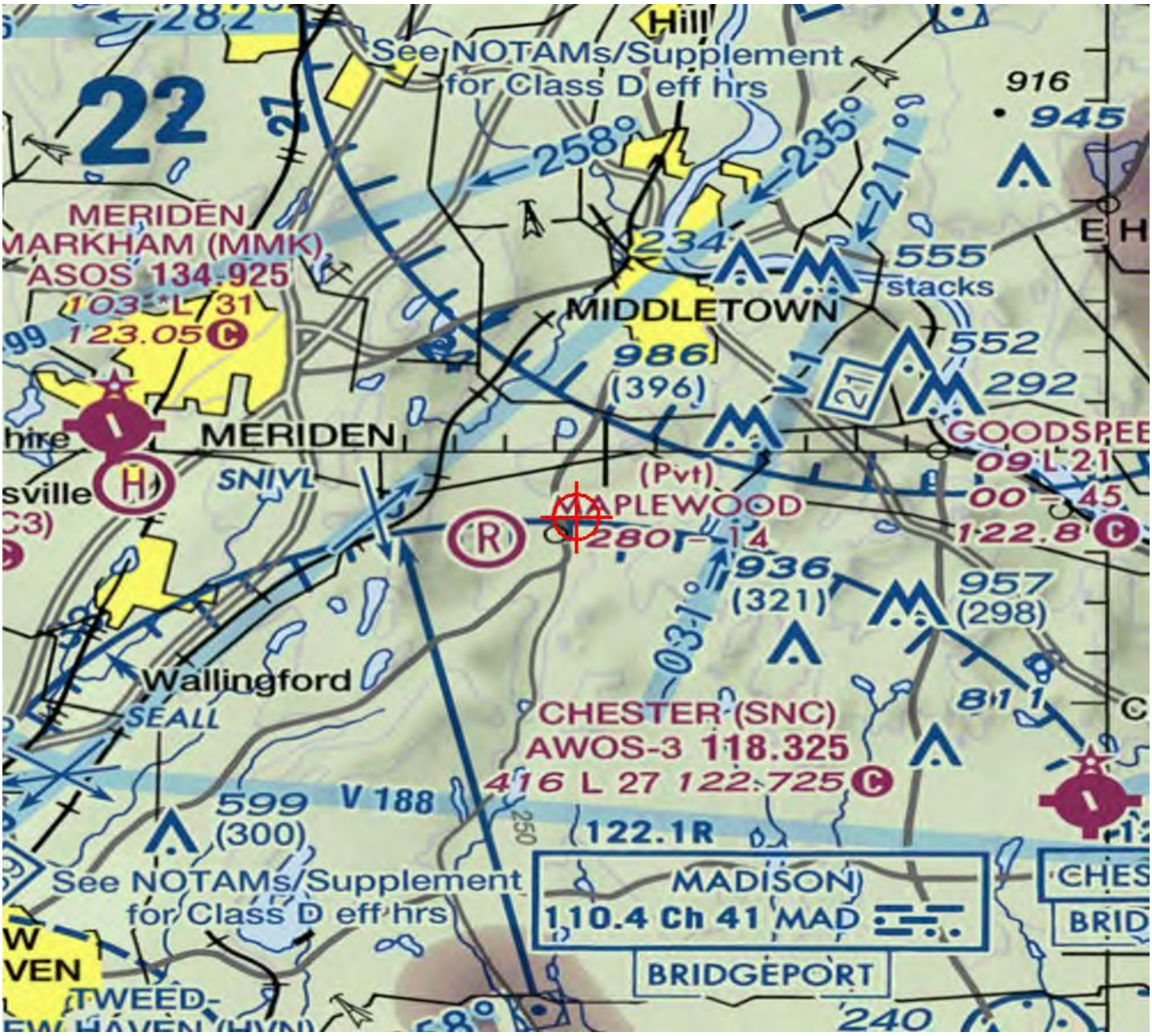
This determination expires on 10/30/2019 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

TOPO Map for ASN 2018-ANE-2793-OE



Sectional Map for ASN 2018-ANE-2793-OE



Attachment G

Dean Gustafson

From: Murphy, Brian <Brian.Murphy@ct.gov>
Sent: Thursday, May 03, 2018 9:04 AM
To: Dean Gustafson; DEEP Nddbrequest
Cc: Bradley J. Parsons; Deb Leonardo; Hagstrom, Neal; Gephard, Steve
Subject: RE: NDDB Review Request # 201800297 for Proposed Durham Manufacturing Co. PV Solar Facility, 201 Main Street, Durham, CT - revised site plans submission

Hi Dean,

I have reviewed the revised plans and have no outstanding fisheries concerns relative to this proposal. If you don't mind, please give me a "heads-up" when you will be conducting instream work. Thanks.

Brian D. Murphy, Senior Fisheries Habitat Biologist
Fisheries Division
Habitat Conservation and Enhancement Program
Connecticut Department of Energy and Environmental Protection
Eastern District Headquarters
209 Hebron Road
Marlborough, CT 06447
P: 860.295-9523 | F: 860.295.8175 | brian.murphy@ct.gov

Connecticut Department of ENERGY & ENVIRONMENTAL PROTECTION

www.ct.gov/deep

Conserving, improving and protecting our natural resources and environment;
Ensuring a clean, affordable, reliable, and sustainable energy supply.

From: Dean Gustafson [mailto:dgustafson@allpointstech.com]
Sent: Wednesday, May 02, 2018 3:26 PM
To: Murphy, Brian; DEEP Nddbrequest
Cc: Bradley J. Parsons; Deb Leonardo
Subject: RE: NDDB Review Request # 201800297 for Proposed Durham Manufacturing Co. PV Solar Facility, 201 Main Street, Durham, CT - revised site plans submission

Good afternoon Brian and Dawn,

We have finalized revised plans that incorporate comments received during our site visit with Brian on March 21st; please see attached. If you would prefer to have full size plans mailed to your office, just let us know.

Brian, you will note that we have included full details of the temporary utility crossing of Ball Brook, erosion controls, restoration along with a Ball Brook Protection and Restoration Program on these revised plans. I believe that these measures should adequately address your comments/concerns expressed during the site visit.

Should you have any follow up questions or comments, please feel free to contact me.

Thank you for your assistance on this project and we look forward to receiving your formal review letter.

Dean

Dean E. Gustafson
Professional Soil Scientist
Senior Wetland Scientist

ALL-POINTS
TECHNOLOGY CORPORATION

3 Saddlebrook Drive
Killingworth, CT 06419
860.663.1697 ext. 201 (office)
860.984.9515 (mobile)
dgustafson@allpointstech.com

Attachment H

GeoInsight®
Environmental Strategy & Engineering
Practical in Nature

February 1, 2018 GeoInsight Project 8672-000

Jim Krieg
Senior Electrical Engineer
Pfister Energy, Inc.
57 Goffle Road
Hawthorne, NJ 07056

Re: Geotechnical Data Report
Ground-Mount Array
201 Main Street
Durham, Connecticut

1.0 INTRODUCTION

GeoInsight, Inc. (GeoInsight) prepared this geotechnical data report for Pfister Energy, Inc. (Pfister) to present the results of a limited geotechnical investigation for the above-referenced project. Our services were performed in general accordance with a written scope of services dated January 5, 2018 and approved by Pfister. This report is subject to the Limitations included herein.

2.0 PROJECT INFORMATION

The project generally consists of development at an approximately 6-acre portion of land on the south side of Maiden Lane in Durham, Connecticut (the Site) with a new ground-mount solar array. The overall project encompasses an approximately 18-acre portion of land with an address of 201 Main Street. Our current understanding of the proposed project is based upon review of a plan titled *Ground Mount Plan* dated December 21, 2017, and communications with Pfister.

The existing 6-acre Site is generally an undeveloped property that is currently utilized as a tree farm. The majority of the 6-acre Site planned to be developed with the solar array is relatively open land, with mature trees along the perimeter of the Site and in the central portion of the Site. Overall ground surface at the Site generally slopes gently downward radially from the central portion of the Site, from approximately elevation (El.) 200 feet in the central portion of the Site to approximately El. 190 feet at the perimeter of the open area (and the approximate extents of the proposed array field).

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Manchester, NH 03101-2643
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Littleton, MA 01460-1440
Tel (978) 679-1600
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GeoInsight, Inc.
200 Court Street, 2nd Floor
Middletown, CT 06457-3341
Tel (860) 894-1022
Fax (860) 894-1023

GeoInsight, Inc.
4 Market Place Drive, 2nd Floor
York, ME 03909
Tel (207) 606-1043

3.0 SUBSURFACE EXPLORATION PROGRAM

Subsurface explorations at the Site were conducted on January 15 and 16, 2018, and consisted of a total of eleven geotechnical test borings identified as B-1 through B-11. The test borings were drilled by SITE, LLC of Beacon Falls, Connecticut using a CME 55LCX all terrain vehicle-mounted drill rig and hollow-stem augers.

Test boring locations were selected based upon the *Ground Mount Plan*, with the intent of the borings being spatially distributed throughout the proposed solar array area. The test borings were established in the field using a handheld global positioning system (GPS) unit. Ground surface elevations recorded on the test boring logs are based upon the GPS data. The approximate locations of the test borings are shown on Figure 2.

Test borings were advanced to depths of approximately 15 feet below ground surface (bgs). Split-barrel sampling via the Standard Penetration Test (SPT, American Society for Testing and Materials [ASTM] International D-1586-11) was conducted continuously from ground surface to 12 feet bgs, and at 13 to 15 feet bgs at each of the borings. The summation of the blows necessary to collect the SPT samples from 6 to 18 inches is called the Standard Penetration Number, which is used as an indicator of the soils' inherent *in situ* density.

Where cohesive soils were encountered, unconfined compressive strength was measured in the field on the samples recovered from the split spoon sampler using a pocket penetrometer. The field unconfined compressive strength test results are presented on the test boring logs.

GeoInsight oversaw the subsurface explorations, collected soil samples, measured apparent groundwater levels, and prepared test boring logs. Soil samples were placed in sealed containers and returned with the field logs to GeoInsight's office for further evaluation and testing. Soil samples were classified in general accordance with visual and manual procedures (ASTM D-2488) and described using modified Burmister Soil Classification System descriptors. The final boring logs are included in Attachment A. Stratification lines shown on the test boring logs represent approximate boundaries between soil types encountered. The actual transitions will likely be more gradual and may vary over short distances.

4.0 SUBSURFACE CONDITIONS

General

The soil profile and conditions outlined below highlight the major subsurface stratifications at the Site. The individual boring logs should be consulted for detailed descriptions of the subsurface conditions encountered at the boring locations. When reviewing the boring records and the subsurface profile, it should be understood that soil conditions might vary away from the boring locations. Variations in subsurface conditions are possible laterally and with depth that are not identified on the test boring logs or otherwise in this report.

Subsurface conditions at the Site generally consisted of a native alluvium deposit underlain by a native pond bottom deposit in the western portion of the Site, alluvium overlying a native till

deposit in the central portion of the Site, and alluvium and/or pond bottom deposits in the eastern portion of the Site overlying till in the southeastern portion of the Site.

Overburden Soils

TOPSOIL A layer of organic topsoil was encountered in each of the borings at ground surface. The topsoil was observed to range in thickness from approximately 0.2 to 0.7 feet.

ALLUVIUM A native alluvial deposit was encountered directly below the topsoil layer in 10 of the 11 test borings drilled at the Site, with the exception of one boring (B-2) where the alluvium was present below an overlying pond bottom deposit. The alluvium deposit was observed to depths ranging from approximately 2 feet to greater than 15 feet (i.e., the test boring terminated within the deposit at 15 feet bgs), and was generally described as a heterogeneous mixture of brown to gray, fine to coarse sand, silt and gravel. Portions of the deposit included a clay fraction. The relative density of the deposit was variable, ranging from very loose to medium dense.

POND BOTTOM A native pond bottom deposit was encountered in six test borings directly below topsoil or the native alluvial deposit, with the exception of B-2, where the pond bottom deposit was encountered overlying the alluvium. The pond bottom deposit was observed to depths ranging from approximately 5 feet to greater than 15 feet bgs, and the thickness of the deposit ranged from approximately 4 feet to greater than 11.2 feet, where the boring terminated within the pond bottom deposit. The pond bottom deposit was generally described as soft to very stiff, brown, silt and clay or clay and silt.

TILL A native till deposit was encountered in six test borings below the overlying alluvium or pond bottom deposits, to the termination depths of the borings at 15 feet bgs. The native till layer was generally described as medium dense to very dense, brown to dark brown, fine to medium sand or fine sand, with some to trace amounts of gravel and some to little amounts of silt.

Refusal Surfaces

Refusal surfaces were not encountered in the test borings, which were drilled to depths of approximately 15 feet bgs.

Groundwater

Groundwater was encountered at 10 of the 11 test borings, at variable depths ranging from approximately 2 to 13.5 feet bgs. We expect that the significantly variable observed groundwater depths were likely attributed to a combination of fine-grained soil layers on which groundwater may have been perched, recent snow melt, and possibly other factors.

Groundwater levels were recorded shortly after completion of the test borings and therefore may not be representative of static groundwater levels. Groundwater may be shallower or deeper during seasonal periods different than those at the time of drilling, and generally will fluctuate due to season, temperature, precipitation, nearby underground utilities, and construction activity in the area. Water levels during and following construction may vary from the groundwater measurements reported herein.

4.0 LABORATORY TESTING

GeoInsight selected representative soil samples from the test borings for laboratory geotechnical and soil corrosivity testing. The samples were collected from locations that were intended to provide laboratory test data spatially distributed throughout the Site. The geotechnical and soil corrosivity laboratory tests are presented in the following sections.

Geotechnical Laboratory Testing
GeoInsight performed geotechnical laboratory testing consisting of the following:

- Grain Size Analysis (ASTM D422); and
- Moisture Content (ASTM D2216).

The geotechnical laboratory testing included a total of 5 grain size analysis tests, and 42 moisture content tests. The geotechnical laboratory testing was performed by GeoInsight in our New Hampshire laboratory. The geotechnical laboratory test reports are included in Attachment B.

Soil Corrosivity Laboratory Testing
Laboratory soil corrosivity testing was performed on a total of three representative soil samples collected from the test borings. The laboratory soil corrosivity testing consisted of the following:

- Soil Resistivity (ASTM G187 using the Soil Box Method);
- pH (ASTM D4972);
- Water-Soluble Sulfate (AASHTO T290); and
- Water-Soluble Chloride (AASTHO T21).

The soil resistivity testing was conducted by GeoInsight in our New Hampshire laboratory. The pH, water-soluble sulfate and water-soluble chloride testing was performed by GeoTesting Express, Inc. of Acton, Massachusetts. The soil corrosivity laboratory test reports are included in Attachment B.

5.0 GENERAL COMMENTS AND LIMITATIONS

GeoInsight provided the data contained within this report based upon limited subsurface explorations performed, as documented in the report text and attached materials. The data provided in this report pertain to the specific areas explored. GeoInsight believes the subsurface explorations described herein were performed in a manner consistent with the services that would have been provided by other geotechnical professionals under similar circumstances. However, given the variable nature of native soil deposits and rock formations, we cannot represent that the subsurface conditions identified in the soil boring logs and described in this report are exact, nor can we guarantee that our interpolation between or extrapolation from subsurface exploration locations is completely representative of actual conditions.

This report has been prepared for specific application to the Site located at 201 Main Street in Durham, Connecticut. No other warranty, expressed, or implied, is made. In addition, this report was prepared exclusively for Pfister and the associated design team. The use of this report by other parties without written consent from GeoInsight is hereby prohibited.

We appreciate the opportunity to have been of service to you on this project. If you have questions concerning this report, or if we may be of further assistance, please contact us at (860) 894-1023.

Sincerely,
GEOINSIGHT, INC.

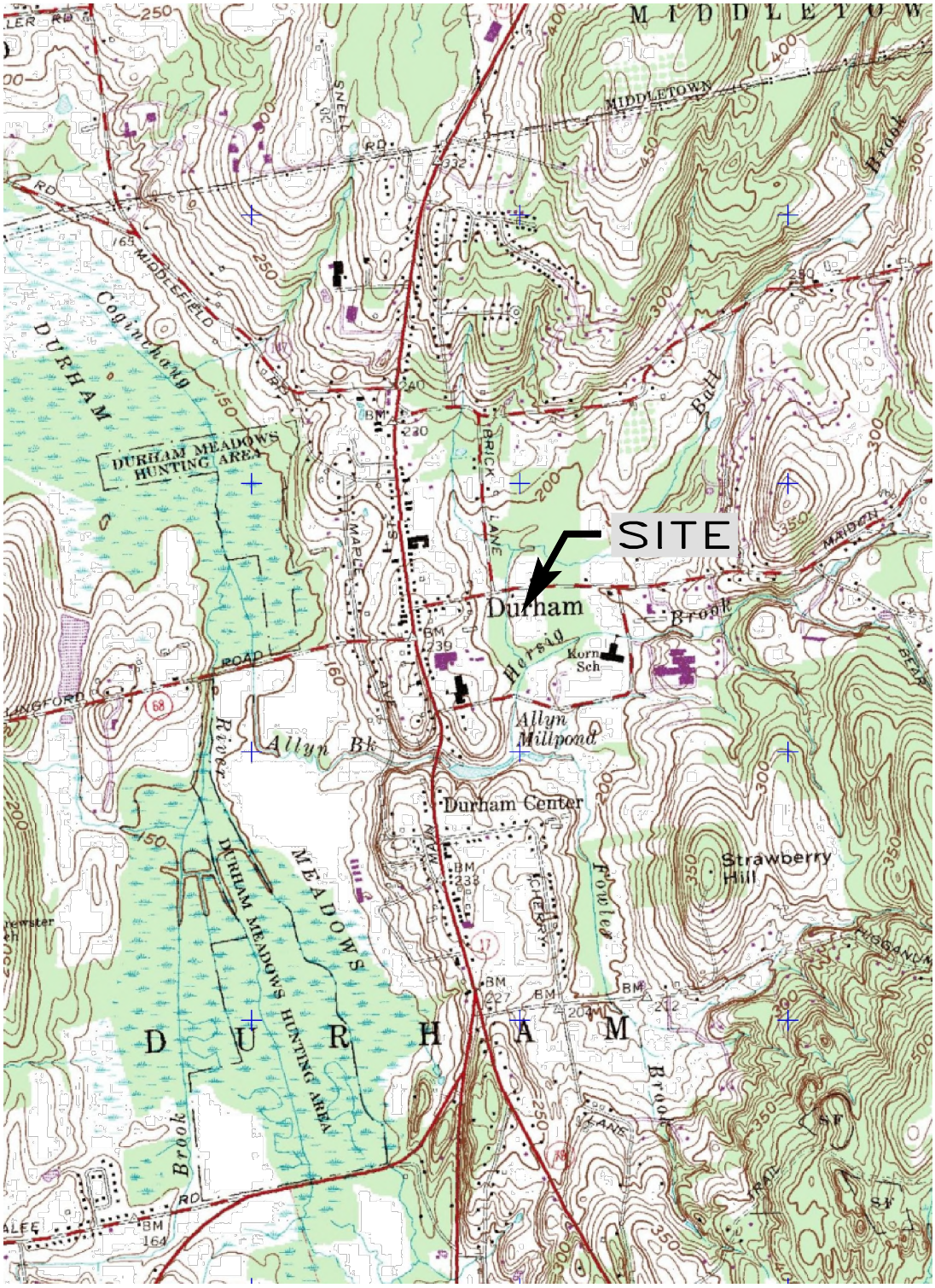
Brian T. Nereson, P.E.
Senior Geotechnical Engineer

Michael C. Penney, P.E., L.S.P.
Director of Engineering/Principal

Jeffrey W. King, P.G., L.E.P.
Senior Hydrogeologist/Regional Manager

Attachments
T:\8672 - Pfister Energy, Durham, CT\Report\8672 Pfister Energy Durham CT Geotechnical Data Report.Doc

FIGURES



SOURCE:

USGS DURHAM, CONNECTICUT
TOPOGRAPHIC QUADRANGLE DATED 1984.

CONTOUR INTERVAL: 10 FEET

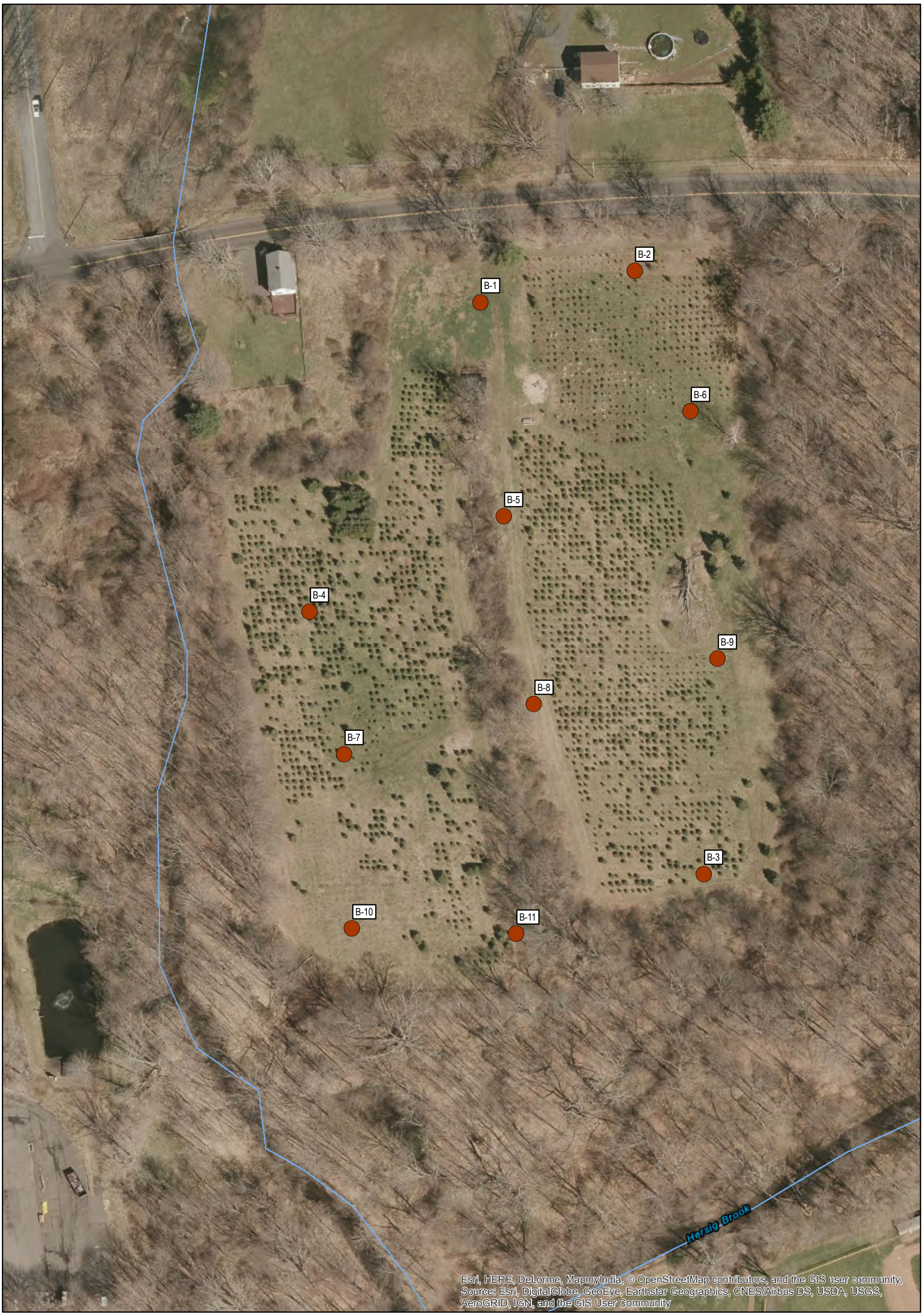
0 2000 4000

APPROX. SCALE IN FEET

CLIENT: PFISTER ENGERY, INC.			
PROJECT: GROUND MOUNT ARRAY 201 MAIN STREET, DURHAM, CT			
TITLE: SITE LOCUS			
DESIGNED: BTN	DRAWN: BTN	CHECKED: MCP	APPROVED: MCP
SCALE: 1" = 2000'	DATE: 2/1/18	FILE NO.: 8672D001	PROJECT NO.: 8672
			FIGURE NO.: 1

GeoInsight
Practical in Nature

PLOT DATE: 2-1-18
FILE: T:\8672 - Pfister Energy, Durham, CT\Figures\8672D001.dwg



BORING LOCATION

0 80 160

APPOX. SCALE IN FEET

N

SOURCE:

CTDEEP GIS DATA

CLIENT:	PFISTER ENERGY, INC.			
PROJECT:	GROUND MOUNT ARRAY 201 MAIN STREET DURHAM, CONNECTICUT			
TITLE:	GEOTECHNICAL BORING LOCATIONS			
DESIGNED: MPR	DRAWN: MPR	CHECKED: BTN	APPROVED: JWK	
SCALE: 1"= 80'	DATE: 1/18/18	FILE NO.: 8672M001	PROJECT NO.: 8672-000	FIGURE NO.: 2

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Date: 2/1/2018
Document Path: H:\ArcMap\8672-Durham\8672M001 - Boring Locations.mxd

ATTACHMENT A

SOIL BORING LOG

GeoInsight
Environmental Strategy & Engineering

Client: Pfister Energy, Inc.		**Boring Identification:** B-1	
Project: Ground Mount Array			**Sheet:** 1 of 1
Location: 201 Main Street, Durham, CT		**Checked By:** BTN	**Project No.:** 8672
Drilling Company: Site LLC	**Boring Location:** Northing - 735424.3989, Easting - 1020236.1964 CT State Plane NAD83		
Foreman: John DeAngeles	**Ground Surface Elevation:** 193.43		**Datum:** NAVD83
GeoInsight Engineer/Geologist: Michael P. Ross	**Date Started:** 1/16/18		**Date Completed:** 1/16/18

DRILLING METHOD	SAMPLER	GROUNDWATER MEASUREMENTS			
		Date	**Depth (ft)**	**Reference**	**Stabilization**
Vehicle: Track	**Type:** 2" SS / Auto	01/16/2018	3.5	Ground Surface	After drilling
Model: CME-55 LCX	**Hammer (lb):** 140				
Method: 2.5" Hollow-Stem Auger	**Fall (in):** 30				

DEPTH (ft)	SAMPLE INFORMATION #	Pen/Rec (in)	Depth (ft)	Blows/6"	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0	S1A	7/7	0-0.6	4	S1A: Loose, dark brown, fine to coarse SAND and organic and inorganic SILT, grass/roots, damp.	TOPSOIL		
1	S1A	17/10	0.6-2	3				
				2	S1B: Loose, brown, fine to coarse SAND and SILT, trace Gravel, damp.	ALLUVIUM		
2				2				
	S2	24/17	2-4	1	S2: Very loose, brown, fine to medium SAND, little fine Gravel and Silt, wet.			
3				1				
				1				
4				5				
	S3	24/18	4-6	17	S3: Medium dense, brown, fine to medium SAND, little Gravel and Silt, wet.			
5				14				
				10		TILL		
6				10				
	S4	24/21	6-8	13	S4: Medium dense, brown, fine to coarse SAND, little Gravel and Silt, wet.			
7				13				
				11				
8				11				
	S5	24/19	8-10	6	S5: Medium dense, brown, fine to medium SAND, some Gravel and Silt, wet.			
9				10				
				13				
10				13				
	S6	24/20	10-12	6	S6: Medium dense, brown, fine to medium SAND, some Gravel and Silt, wet.			
11				7				
				6				
12				9				
13								
	S7A	22/22	13-14.8	12	S7A: Dense, brown, fine to medium SAND, little Gravel and Silt, wet.			
14				17				
				27				
15	S7B	2/2	14.8-15	45	S7B: Dense, brown, fine to coarse SAND and SILT, trace Gravel, wet.			
					End of boring at 15 feet. Refusal not encountered			
16								
17								
18								
19								
20								

GRANULAR SOILS		COHESIVE SOILS	
Blows/ft.	**Density**	**Blows/ft.**	**Consistency**
0-4	V. LOOSE	<2	V. SOFT
5-10	LOOSE	2-4	SOFT
11-30	M. DENSE	4-8	M. STIFF
31-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

NOTES

SOIL BORING LOG

GeoInsight
Environmental Strategy & Engineering

Client: Pfister Energy, Inc.		**Boring Identification:** B-2	
Project: Ground Mount Array			**Sheet:** 1 of 1
Location: 201 Main Street, Durham, CT		**Checked By:** BTN	**Project No.:** 8672
Drilling Company: Site LLC	**Boring Location:** Northing - 735451.6815, Easting - 1020370.226 CT State Plane NAD83		
Foreman: John DeAngeles	**Ground Surface Elevation:** 192.69		**Datum:** NAVD83
GeoInsight Engineer/Geologist: Michael P. Ross	**Date Started:** 1/16/18		Date Completed: 1/16/18

DRILLING METHOD	SAMPLER	GROUNDWATER MEASUREMENTS			
		Date	**Depth (ft)**	**Reference**	**Stabilization**
Vehicle: Track	**Type:** 2" SS / Auto	01/16/2018	6	Ground Surface	~ 30 minutes
Model: CME-55 LCX	**Hammer (lb):** 140				
Method: 2.5" Hollow-Stem Auger	**Fall (in):** 30				

DEPTH (ft)	SAMPLE INFORMATION #	Pen/Rec (in)	Depth (ft)	Blows/6"	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0	S1A	6/6	0-0.5	1	S1A: Very loose, brown, fine SAND and organic and inorganic	TOPSOIL		
1	S1B	18/13	0.5-2	1	SILT, trace Clay, grass/roots, damp.			
				2	S1B: Soft, brown, SILT, some Clay, little fine to coarse Sand, damp.			
2				4		POND BOTTOM		
	S2	24/22	2-4	5	S2: Very stiff, brown, SILT and CLAY, damp.			
3				7				
				9				
4				10				
	S3	24/21	4-6	5	S3: Stiff, brown, SILT and CLAY, damp.			
5				5				
				6				
6				6				
	S4	24/17	6-8	8	S4: Medium dense, brown, fine to medium SAND, some Silt, trace fine Gravel, wet.			
7				9				
				8		ALLUVIUM		
8				12				
	S5A	3/3	8-8.3	3	S5A: Loose, brown, fine to medium SAND, some Silt, trace Gravel, wet.			
9	S5B	21/11	8.3-10	4				
				6	S5B: Loose, grey, fine to medium SAND and SILT, little Gravel, trace Clay, rock in tip of sampler, wet.			
10				50				
	S6	24/7	10-12	50	S6: Very dense, brown and gray, fine to coarse SAND, some Silt, little Gravel, wet.			
11				42				
				13				
12				4				
13								
	S7	24/15	13-15	1	S7: Medium dense, grey, fine to coarse SAND, some Gravel and Silt, wet.			
14				7				
				8				
15				7				
					End of boring at 15 feet. Refusal not encountered.			
16								
17								
18								
19								
20								

GRANULAR SOILS		COHESIVE SOILS		NOTES
Blows/ft.	**Density**	**Blows/ft.**	**Consistency**	
0-4	V. LOOSE	<2	V. SOFT	
5-10	LOOSE	2-4	SOFT	
11-30	M. DENSE	4-8	M. STIFF	
31-50	DENSE	8-15	STIFF	
>50	V. DENSE	15-30	V. STIFF	
		>30	HARD	

SOIL BORING LOG

GeoInsight
Environmental Strategy & Engineering

Client: Pfister Energy, Inc.		**Boring Identification:** B-3	
Project: Ground Mount Array			**Sheet:** 1 of 1
Location: 201 Main Street, Durham, CT		**Checked By:** BTN	**Project No.:** 8672
Drilling Company: Site LLC	**Boring Location:** Northing - 734927.401, Easting - 1020430.2458 CT State Plane NAD83		
Foreman: John DeAngeles	**Ground Surface Elevation:** 184.56		**Datum:** NAVD83
GeoInsight Engineer/Geologist: Michael P. Ross	**Date Started:** 1/15/18		**Date Completed:** 1/15/18

DRILLING METHOD	SAMPLER	GROUNDWATER MEASUREMENTS			
		Date	**Depth (ft)**	**Reference**	**Stabilization**
Vehicle: Track	**Type:** 2" SS / Auto	01/15/2018	5	Ground Surface	~ 2 hr
Model: CME-55 LCX	**Hammer (lb):** 140				
Method: 2.5" Hollow-Stem Auger	**Fall (in):** 30				

DEPTH (ft)	SAMPLE INFORMATION #	Pen/Rec (in)	Depth (ft)	Blows/6"	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0	S1A	2/2	0-0.3	7	S1A: Very loose, brown, fine SAND and organic & inorganic	TOPSOIL		
1	S1B	22/15	0.3-2	2	SILT, grass roots, damp.			
				1	S1B: Soft, brown, SILT and CLAY, damp. Cu = 1.5 tsf.			
2				2		POND BOTTOM		
	S2	24/17	2-4	4	S2: Stiff, brown, SILT and CLAY, damp. Cu = 4.0 tsf.			
3				6				
				9				
4				8				
	S3	24/19	4-6	1	S3: Medium stiff, brown, SILT and CLAY, wet. Cu = 4.0 tsf.			
5				2				
				4				
6				4				
	S4	24/22	6-8	5	S4: Medium dense, brown, fine SAND and SILT, some medium Sand, trace Clay and Gravel, wet.	TILL		
7				8				
				9				
8				12				
	S5	24/14	8-10	9	S5: Dense, dark brown, fine to medium SAND, some Gravel, little Silt, wet.			
9				17				
				15				
10				25				
	S6	24/13	10-12	6	S6: Medium dense, dark brown, fine to medium SAND, some Silt, little Gravel, wet.			
11				11				
				9				
12				5				
13								
	S7	24/24	13-15	7	S7: Medium dense, brown, fine SAND, some Silt, trace Gravel, wet.			
14				11				
				13				
15				16				
					End of boring at 15 feet. Refusal not encountered.			
16								
17								
18								
19								
20								

GRANULAR SOILS		COHESIVE SOILS	
Blows/ft.	**Density**	**Blows/ft.**	**Consistency**
0-4	V. LOOSE	<2	V. SOFT
5-10	LOOSE	2-4	SOFT
11-30	M. DENSE	4-8	M. STIFF
31-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

NOTES

Cu = unconfined compressive strength as measured in the field using a pocket penetrometer.

SOIL BORING LOG

GeoInsight
Environmental Strategy & Engineering

Client: Pfister Energy, Inc.		**Boring Identification:** B-4	
Project: Ground Mount Array			**Sheet:** 1 of 1
Location: 201 Main Street, Durham, CT		**Checked By:** BTN	**Project No.:** 8672
Drilling Company: Site LLC	**Boring Location:** Northing - 735155.3776, Easting - 1020087.505 CT State Plane NAD83		
Foreman: John DeAngeles	**Ground Surface Elevation:** 189.37		**Datum:** NAVD83
GeoInsight Engineer/Geologist: Michael P. Ross	**Date Started:** 1/16/18		Date Completed: 1/16/18

DRILLING METHOD	SAMPLER	GROUNDWATER MEASUREMENTS			
		Date	**Depth (ft)**	**Reference**	**Stabilization**
Vehicle: Track	**Type:** 2" SS / Auto	01/16/2018	4	Ground Surface	After drilling
Model: CME-55 LCX	**Hammer (lb):** 140				
Method: 2.5" Hollow-Stem Auger	**Fall (in):** 30				

DEPTH (ft)	SAMPLE INFORMATION #	Pen/Rec (in)	Depth (ft)	Blows/6"	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0	S1A	24/5	0-0.7	4	S1A: Very loose, brown, fine to coarse SAND, some organic and inorganic Silt, little Gravel, grass/roots, frozen.	TOPSOIL		
1	S1B	24/17	0.7-2	2				
				1	S1B: Very loose, brown, fine to medium SAND and SILT, trace Gravel, damp.	ALLUVIUM		
2				1				
	S2	21/13	2-4	1	S2: Loose, brown, fine to coarse SAND, some Silt, little Gravel, wet.			
3				1				
				6				
4				14				
	S3A	24/10	4-4.8	8	S3A: Medium dense, brown, fine to coarse SAND, some Gravel and Silt, wet.			
5				14				
	S3B	24/7	4.8-6	6	S3B: Very stiff, brown, CLAY and SILT, wet. Cu = 3.75 tsf.	POND BOTTOM		
6				6				
	S4	24/24	6-8	8	S4: Very stiff, brown, CLAY and SILT, wet. Cu = > 4.5 tsf.			
7				11				
				15				
8				14				
	S5	24/24	8-10	3	S5: Stiff, brown, CLAY and SILT, wet. Cu = 4.0 tsf.			
9				5				
				7				
10				9				
	S6	24/24	10-12	4	S6: Stiff, brown, CLAY and SILT, wet. Cu = 2.75 tsf.			
11				4				
				5				
12				6				
13								
	S7	24/24	13-15	2	S7: Medium stiff, brown, CLAY and SILT, wet. Cu = 1.5 tsf.			
14				3				
				4				
15				4				
					End of boring at 15 feet. Refusal not encountered.			
16								
17								
18								
19								
20								

GRANULAR SOILS		COHESIVE SOILS		NOTES
Blows/ft.	**Density**	**Blows/ft.**	**Consistency**	Cu = unconfined compressive strength as measured in the field using a pocket penetrometer.
0-4	V. LOOSE	<2	V. SOFT	
5-10	LOOSE	2-4	SOFT	
11-30	M. DENSE	4-8	M. STIFF	
31-50	DENSE	8-15	STIFF	
>50	V. DENSE	15-30	V. STIFF	
		>30	HARD	

SOIL BORING LOG

GeoInsight
Environmental Strategy & Engineering

Client: Pfister Energy, Inc.		**Boring Identification:** B-5	
Project: Ground Mount Array			**Sheet:** 1 of 1
Location: 201 Main Street, Durham, CT		**Checked By:** BTN	**Project No.:** 8672
Drilling Company: Site LLC	**Boring Location:** Northing - 735238.3898, Easting - 1020256.3336 CT State Plane NAD83		
Foreman: John DeAngeles	**Ground Surface Elevation:** 199.22		**Datum:** NAVD83
GeoInsight Engineer/Geologist: Michael P. Ross	**Date Started:** 1/15/18		**Date Completed:** 1/15/18

DRILLING METHOD	SAMPLER	GROUNDWATER MEASUREMENTS			
		Date	**Depth (ft)**	**Reference**	**Stabilization**
Vehicle: Track	**Type:** 2" SS / Auto				
Model: CME-55 LCX	**Hammer (lb):** 140	01/15/2018	Not Encountered		
Method: 2.5" Hollow-Stem Auger	**Fall (in):** 30				

DEPTH (ft)	SAMPLE INFORMATION #	Pen/Rec (in)	Depth (ft)	Blows/6"	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0	S1A	3/3	0-0.3	2	S1A: Very loose, brown, fine SAND and organic and inorganic	TOPSOIL		
1	S1B	21/9	0.3-2	1	SILT, grass/roots, damp.			
				2	S1B: Very Loose, brown, fine to coarse SAND and SILT, damp.			
2				2		ALLUVIUM		
	S2	24/19	2-4	3	S2: Loose, brown, fine SAND and SILT, trace fine Gravel, damp.			
3				4				
				5				
4				7				
	S3	24/22	4-6	5	S3: Medium dense, brown, fine to medium SAND, some Silt, trace Gravel, damp.			
5				11				
				15		TILL		
6				14				
	S4	24/22	6-8	12	S4: Dense, brown, fine SAND, some Silt, little Gravel, damp.			
7				17				
				18				
8				31				
	S5	24/21	8-10	19	S5: Medium dense, brown, fine SAND, some Silt, little Gravel, damp.			
9				12				
				18				
10				18				
	S6	24/21	10-12	14	S6: Very dense, brown, fine SAND, some Silt, trace Gravel, trace Silt, damp. Crushed rock in bottom 5".			
11				20				
				34				
12				45				
13								
	S7	24/24	13-15	28	S7: Very dense, brown, fine to medium SAND, some Silt, trace Gravel, damp.			
14				39				
				33				
15				36				
					End of boring at 15 feet. Refusal not encountered.			
16								
17								
18								
19								
20								

GRANULAR SOILS		COHESIVE SOILS		NOTES
Blows/ft.	**Density**	**Blows/ft.**	**Consistency**	
0-4	V. LOOSE	<2	V. SOFT	
5-10	LOOSE	2-4	SOFT	
11-30	M. DENSE	4-8	M. STIFF	
31-50	DENSE	8-15	STIFF	
>50	V. DENSE	15-30	V. STIFF	
		>30	HARD	

SOIL BORING LOG

GeoInsight
Environmental Strategy & Engineering

Client: Pfister Energy, Inc.		**Boring Identification:** B-6	
Project: Ground Mount Array			**Sheet:** 1 of 1
Location: 201 Main Street, Durham, CT		**Checked By:** BTN	**Project No.:** 8672
Drilling Company: Site LLC	**Boring Location:** Northing - 735329.935, Easting - 1020418.7536 CT State Plane NAD83		
Foreman: John DeAngeles	**Ground Surface Elevation:** 193.22		**Datum:** NAVD83
GeoInsight Engineer/Geologist: Michael P. Ross	**Date Started:** 1/15/18		**Date Completed:** 1/15/18

DRILLING METHOD	SAMPLER	GROUNDWATER MEASUREMENTS			
		Date	**Depth (ft)**	**Reference**	**Stabilization**
Vehicle: Track	**Type:** 2" SS / Auto	01/15/2018	2	Ground Surface	~2 hours
Model: CME-55 LCX	**Hammer (lb):** 140				
Method: 2.5" Hollow-Stem Auger	**Fall (in):** 30				

DEPTH (ft)	SAMPLE INFORMATION #	Pen/Rec (in)	Depth (ft)	Blows/6"	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0	S1A	2/2	0-0.2	1	S1A: Very soft, brown, organic and inorganic SILT and CLAY,	TOPSOIL		
1	S1B	22/7	0.2-2	1	trace fine Sand, grass/roots, damp.			
				1	S1B: Very soft, brown, SILT and CLAY, trace fine to coarse Sand, damp.			
2				3	Cu = 2.5 tsf.	ALLUVIUM		
	S2	24/21	2-4	6	S2: Layered medium dense, brown, fine to coarse SAND, some Silt, trace fine Gravel and			
3				9	very stiff, SILT and CLAY, damp. Cu = 4.0 tsf.			
				8				
4				11				
	S3A	6/6	4-4.5	5	S3A: Stiff, brown, SILT and CLAY, wet. Cu = 3.75 tsf.			
5	S3B	18/14	4.5-6	5	S3B: Medium dense, brown, fine to medium SAND, and Silt, wet.			
				6				
6				7				
	S4	24/13	6-8	5	S4: Medium dense, brown, fine SAND and SILT, trace Gravel, wet.			
7				7				
				5				
8				13				
	S5	24/13	8-10	6	S5: Loose, brown/grey, fine to medium SAND and SILT, little Gravel, wet.			
9				4				
				5				
10				7				
	S6	24/12	10-12	5	S6: Medium dense, brown/gray, fine to medium SAND and SILT, little Gravel, wet.			
11				5				
				6				
12				4				
13								
	S7	24/0	13-15	5	S7: No Recovery.			
14				6				
				8				
15				10				
					End of boring at 15 feet. Refusal not encountered.			
16								
17								
18								
19								
20								

GRANULAR SOILS		COHESIVE SOILS		NOTES
Blows/ft.	**Density**	**Blows/ft.**	**Consistency**	Cu = unconfined compressive strength as measured in the field using a pocket penetrometer.
0-4	V. LOOSE	<2	V. SOFT	
5-10	LOOSE	2-4	SOFT	
11-30	M. DENSE	4-8	M. STIFF	
31-50	DENSE	8-15	STIFF	
>50	V. DENSE	15-30	V. STIFF	
		>30	HARD	

SOIL BORING LOG

GeoInsight
Environmental Strategy & Engineering

Client: Pfister Energy, Inc.		**Boring Identification:** B-7	
Project: Ground Mount Array			**Sheet:** 1 of 1
Location: 201 Main Street, Durham, CT		**Checked By:** BTN	**Project No.:** 8672
Drilling Company: Site LLC	**Boring Location:** Northing - 735031.5637, Easting - 1020117.6755 CT State Plane NAD83		
Foreman: John DeAngeles	**Ground Surface Elevation:** 189.57		**Datum:** NAVD83
GeoInsight Engineer/Geologist: Michael P. Ross	**Date Started:** 1/16/18		**Date Completed:** 1/16/18

DRILLING METHOD	SAMPLER	GROUNDWATER MEASUREMENTS			
		Date	**Depth (ft)**	**Reference**	**Stabilization**
Vehicle: Track	**Type:** 2" SS / Auto	01/16/2018	5	Ground Surface	During Drilling
Model: CME-55 LCX	**Hammer (lb):** 140				
Method: 2.5" Hollow-Stem Auger	**Fall (in):** 30				

DEPTH (ft)	SAMPLE INFORMATION #	Pen/Rec (in)	Depth (ft)	Blows/6"	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0	S1A	6/6	0-0.5	5	S1A: Very loose, brown, fine to medium SAND and organic and inorganic	TOPSOIL		
1	S1B	18/15	0.5-2	2	SILT, trace Gravel, grass/roots, damp.			
				2	S1B: Very loose, brown, SILT and CLAY, little fine to medium Sand, damp.			
2				5		ALLUVIUM		
	S2	24/24	2-4	9	S2: Medium Dense, brown, fine to coarse SAND, some fine Gravel, trace Silt, damp.			
3				11				
				19				
4				24				
	S3A	15/15	4-5.3	12	S3A: Similar to S2.			
5				13				
	S3B	9/8	5.3-6	8	S3B: Stiff, brown, SILT and CLAY, wet. Cu = 3.75 tsf.			
6				7				
	S4	24/24	6-8	7	S4: Very stiff, brown, SILT and CLAY, wet. Cu = 3.5 tsf.			
7				9		POND BOTTOM		
				10				
8				12				
	S5	24/24	8-10	3	S5: Stiff, brown, SILT and CLAY, wet. Cu = 3.5 tsf.			
9				3				
				5				
10				7				
	S6	24/24	10-12	3	S6: Stiff, brown, SILT and CLAY, wet. Cu = 3.0 tsf.			
11				4				
				5				
12				5				
13								
	S7	24/24	13-15	1	S7: Medium Stiff, brown, SILT and CLAY, wet. Cu = 2.0 tsf.			
14				2				
				3				
15				5				
					End of boring at 15 feet. Refusal not encountered.			
16								
17								
18								
19								
20								

GRANULAR SOILS		COHESIVE SOILS	
Blows/ft.	**Density**	**Blows/ft.**	**Consistency**
0-4	V. LOOSE	<2	V. SOFT
5-10	LOOSE	2-4	SOFT
11-30	M. DENSE	4-8	M. STIFF
31-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

NOTES

Cu = unconfined compressive strength as measured in the field using a pocket penetrometer.

SOIL BORING LOG

GeoInsight
Environmental Strategy & Engineering

Client: Pfister Energy, Inc.		**Boring Identification:** B-8	
Project: Ground Mount Array			**Sheet:** 1 of 1
Location: 201 Main Street, Durham, CT		**Checked By:** BTN	**Project No.:** 8672
Drilling Company: Site LLC	**Boring Location:** Northing - 735075.0977, Easting - 1020282.6333 CT State Plane NAD83		
Foreman: John DeAngeles	**Ground Surface Elevation:** 198.12		**Datum:** NAVD83
GeoInsight Engineer/Geologist: Michael P. Ross	**Date Started:** 1/15/18		**Date Completed:** 1/15/18

DRILLING METHOD	SAMPLER	GROUNDWATER MEASUREMENTS			
		Date	**Depth (ft)**	**Reference**	**Stabilization**
Vehicle: Track	**Type:** 2" SS / Auto	01/15/2018	13.5	Ground Surface	During Drilling
Model: CME-55 LCX	**Hammer (lb):** 140				
Method: 2.5" Hollow-Stem Auger	**Fall (in):** 30				

DEPTH (ft)	SAMPLE INFORMATION #	Pen/Rec (in)	Depth (ft)	Blows/6"	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0	S1A	6/6	0-0.5	5	S1A: Very loose, brown, fine SAND and organic and inorganic SILT,	TOPSOIL		
1	S1B	18/14	0.5-2	2	grass/roots, damp.	ALLUVIUM		
				1	S1B: Very loose, brown, SILT, some fine Sand, trace fine Gravel, damp.			
2				1				
	S2	24/18	2-4	1	S2: Loose, brown, fine to coarse SAND and Silt, trace Gravel, damp.			
3				1				
				9				
4				13		TILL		
	S3	24/21	4-6	8	S3: Medium dense, brown, fine to medium SAND, some Silt, little fine Gravel, damp.			
5				13				
				13				
6				15				
	S4	24/24	6-8	18	S4: Dense, brown, fine to medium SAND, some Silt, little Gravel, damp.			
7				27				
				19				
8				23				
	S5	24/22	8-10	11	S5: Dense, brown, fine to medium SAND, some Gravel and Silt, damp.			
9				16				
				18				
10				24				
	S6	12/12	10-12	27	S6: Very dense, brown, fine to coarse SAND, some Gravel, little Silt, moist.			
11				100				
12								
13								
	S7	24/21	13-15	7	S7: Medium dense, brown, fine to medium SAND, some Silt, wet at 13.5.			
14				10				
				15				
15				19				
					End of boring at 15 feet. Refusal not encountered.			
16								
17								
18								
19								
20								

GRANULAR SOILS		COHESIVE SOILS		NOTES
Blows/ft.	**Density**	**Blows/ft.**	**Consistency**	
0-4	V. LOOSE	<2	V. SOFT	
5-10	LOOSE	2-4	SOFT	
11-30	M. DENSE	4-8	M. STIFF	
31-50	DENSE	8-15	STIFF	
>50	V. DENSE	15-30	V. STIFF	
		>30	HARD	

SOIL BORING LOG

GeoInsight
Environmental Strategy & Engineering

Client: Pfister Energy, Inc.		**Boring Identification:** B-9	
Project: Ground Mount Array			**Sheet:** 1 of 1
Location: 201 Main Street, Durham, CT		**Checked By:** BTN	**Project No.:** 8672
Drilling Company: Site LLC	**Boring Location:** Northing - 735114.692, Easting - 1020442.2064 CT State Plane NAD83		
Foreman: John DeAngeles	**Ground Surface Elevation:** 192.03		**Datum:** NAVD83
GeoInsight Engineer/Geologist: Michael P. Ross	**Date Started:** 1/15/18		**Date Completed:** 1/15/18

DRILLING METHOD	SAMPLER	GROUNDWATER MEASUREMENTS			
		Date	**Depth (ft)**	**Reference**	**Stabilization**
Vehicle: Track	**Type:** 2" SS / Auto	01/15/2018	1.5	Ground Surface	After Drilling
Model: CME-55 LCX	**Hammer (lb):** 140				
Method: 2.5" Hollow-Stem Auger	**Fall (in):** 30				

DEPTH (ft)	SAMPLE INFORMATION #	Pen/Rec (in)	Depth (ft)	Blows/6"	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0	S1A	3/3	0-0.3	2	S1A: Very loose, brown, fine SAND and organic and inorganic	TOPSOIL		
1	S1B	21/7	0.3-2	1	SILT, grass/roots, damp.			
				1	S1B: Very loose, brown, fine SAND and SILT, trace Gravel, damp.	ALLUVIUM		
2				1				
	S2	24/12	2-4	5	S2: Medium dense, brown, fine to coarse SAND, some Gravel, little Silt, wet.			
3				6				
				15				
4				9				
	S3	24/18	4-6	4	S3: Stiff, brown, SILT and CLAY, bedded, wet. Cu =3.5 tsf.	POND BOTTOM		
5				5				
				8				
6				9				
	S4	24/18	6-8	4	S4: Stiff, brown, SILT and CLAY, trace fine Sand and fine Gravel, bedded, wet. Cu = 1.5 tsf.			
7				5				
				7				
8				11				
	S5	24/17	8-10	2	S5: Medium dense, brown, fine to medium SAND and SILT, some Gravel, wet.	TILL		
9				9				
				10				
10				11				
	S6	24/16	10-12	7	S6: Medium dense, brown, fine to coarse SAND and GRAVEL, some Silt, wet.			
11				13				
				15				
12				12				
13								
	S7	24/18	13-15	12	S7: Medium dense, brown, fine to coarse SAND and SILT, little Gravel, wet.			
14				15				
				11				
15				12				
					End of boring at 15 feet. Refusal not encountered.			
16								
17								
18								
19								
20								

GRANULAR SOILS		COHESIVE SOILS	
Blows/ft.	**Density**	**Blows/ft.**	**Consistency**
0-4	V. LOOSE	<2	V. SOFT
5-10	LOOSE	2-4	SOFT
11-30	M. DENSE	4-8	M. STIFF
31-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

NOTES

2'-4' cuttings were too wet to collect for sample. Spoon sample was divided between jar and bag.

Cu = unconfined compressive strength as measured in the field using a pocket penetrometer.

SOIL BORING LOG

GeoInsight
Environmental Strategy & Engineering

Client: Pfister Energy, Inc.		**Boring Identification:** B-10	
Project: Ground Mount Array			**Sheet:** 1 of 1
Location: 201 Main Street, Durham, CT		**Checked By:** BTN	**Project No.:** 8672
Drilling Company: Site LLC	**Boring Location:** Northing - 734879.8452, Easting - 1020124.4069 CT State Plane NAD83		
Foreman: John DeAngeles	**Ground Surface Elevation:** 188.04		**Datum:** NAVD83
GeoInsight Engineer/Geologist: Michael P. Ross	**Date Started:** 1/16/18		**Date Completed:** 1/16/18

DRILLING METHOD	SAMPLER	GROUNDWATER MEASUREMENTS			
		Date	**Depth (ft)**	**Reference**	**Stabilization**
Vehicle: Track	**Type:** 2" SS / Auto	01/16/2018	2	Ground Surface	During Drilling
Model: CME-55 LCX	**Hammer (lb):** 140				
Method: 2.5" Hollow-Stem Auger	**Fall (in):** 30				

DEPTH (ft)	SAMPLE INFORMATION #	Pen/Rec (in)	Depth (ft)	Blows/6"	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0	S1A	6/6	0-0.5	2	S1A: Very loose, brown, fine to coarse SAND and SILT, trace Gravel, grass/roots, damp.	TOPSOIL		
1	S1B	12/6	0.5-2	1	S1B: Very loose, brown, fine to coarse SAND and SILT, trace Gravel, damp.	ALLUVIUM		
				2	S1C: Very loose, brown, fine to medium SAND, some Silt, little coarse Sand and Gravel, damp.			
2	S1C	6/4	1.2-2	3				
	S2A	10/10	2-2.8	2	S2A: Medium dense, brown, fine to coarse SAND, some Silt, little Gravel, wet.			
3				5				
	S2B	14/9	2.8-4	6	S2B: Medium dense, brown, fine to coarse SAND, some Gravel, little Silt, wet.			
4				9				
	S3A	6/6	4-4.5	4	S3A: Medium dense, brown, fine to coarse SAND, some Gravel, little Silt, wet.			
5	S3B	18/6	4.5-6	13	S3B: Medium dense, brown, fine to coarse SAND and GRAVEL, little Silt, wet.			
				9				
6				7				
	S4	24/17	6-8	4	S4: Very stiff, brown, CLAY, some Silt, wet. Cu = > 4.5 tsf.	POND BOTTOM		
7				7				
				14				
8				16				
	S5	24/24	8-10	5	S5: Very stiff, brown, CLAY, some Silt, wet. Cu = 4.0 tsf.			
9				9				
				11				
10				12				
	S6	24/24	10-12	3	S6: Stiff, brown, CLAY, some Silt, wet. Cu = 2.5 tsf.			
11				3				
				6				
12				6				
13								
	S7	24/24	13-15	2	S7: Stiff, brown, CLAY, some Silt, wet. Cu = 1.5 tsf.			
14				3				
				5				
15				3				
					End of boring at 15 feet. Refusal not encountered.			
16								
17								
18								
19								
20								

GRANULAR SOILS		COHESIVE SOILS		NOTES
Blows/ft.	**Density**	**Blows/ft.**	**Consistency**	Cu = unconfined compressive strength as measured in the field using a pocket penetrometer.
0-4	V. LOOSE	<2	V. SOFT	
5-10	LOOSE	2-4	SOFT	
11-30	M. DENSE	4-8	M. STIFF	
31-50	DENSE	8-15	STIFF	
>50	V. DENSE	15-30	V. STIFF	
		>30	HARD	

SOIL BORING LOG

GeoInsight
Environmental Strategy & Engineering

Client: Pfister Energy, Inc.		**Boring Identification:** B-11	
Project: Ground Mount Array			**Sheet:** 1 of 1
Location: 201 Main Street, Durham, CT		**Checked By:** BTN	**Project No.:** 8672
Drilling Company: Site LLC	**Boring Location:** Northing - 734875.3732, Easting - 1020266.9602 CT State Plane NAD83		
Foreman: John DeAngeles	**Ground Surface Elevation:** 191.12		**Datum:** NAVD83
GeoInsight Engineer/Geologist: Michael P. Ross	**Date Started:** 1/16/18		**Date Completed:** 1/16/18

DRILLING METHOD	SAMPLER	GROUNDWATER MEASUREMENTS			
		Date	**Depth (ft)**	**Reference**	**Stabilization**
Vehicle: Track	**Type:** 2" SS / Auto	01/16/2018	6.5	Ground Surface	~ 2 hours
Model: CME-55 LCX	**Hammer (lb):** 140				
Method: 2.5" Hollow-Stem Auger	**Fall (in):** 30				

DEPTH (ft)	SAMPLE INFORMATION #	Pen/Rec (in)	Depth (ft)	Blows/6"	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
0	S1A	6/6	0-0.5	20	S1A: Medium dense, brown, fine to medium SAND and organic and inorganic	TOPSOIL		
1	S1B	18/18	0.5-2	16	SILT, grass/roots, damp.			
				3	S1B: Medium dense, brown, fine to coarse SAND and SILT, some Gravel, damp.	ALLUVIUM		
2				2				
	S2	24/16	2-4	2	S2: Medium dense, brown, fine to medium SAND and SILT, little Gravel, wet.			
3				6				
				22		TILL		
4				20				
	S3	24/16	4-6	13	S3: Medium dense, brown, fine to medium SAND and SILT, little Gravel, wet.			
5				9				
				11				
6				14				
	S4	24/23	6-8	14	S4: Medium dense, brown, fine to medium SAND and SILT, little Gravel, wet.			
7				14				
				14				
8				16				
	S5	24/17	8-10	9	S5: Medium dense, brown, fine to medium SAND and SILT, little Gravel, wet.			
9				12				
				12				
10				12				
	S6	24/21	10-12	8	S6A: Medium dense, brown, fine to medium SAND and SILT, trace Gravel, wet.			
11				8				
				7	S6B: Very stiff, brown, SILT and CLAY, some fine to coarse Sand, little Gravel.			
12				9				
13								
	S7	24/14	13-15	46	S7: Very dense, brown, fine to medium SAND and SILT, little Gravel, wet.			
14				24				
				27				
15				26				
					End of boring at 15 feet. Refusal not encountered.			
16								
17								
18								
19								
20								

GRANULAR SOILS		COHESIVE SOILS		NOTES
Blows/ft.	**Density**	**Blows/ft.**	**Consistency**	Cu = unconfined compressive strength as measured in the field using a pocket penetrometer.
0-4	V. LOOSE	<2	V. SOFT	
5-10	LOOSE	2-4	SOFT	
11-30	M. DENSE	4-8	M. STIFF	
31-50	DENSE	8-15	STIFF	
>50	V. DENSE	15-30	V. STIFF	
		>30	HARD	

ATTACHMENT B

GeoInsight®
Environmental Strategy & Engineering
Practical in Nature

Natural Moisture Content Laboratory Report

ASTM D2216

Sample Location	Sample Depth (feet bgs)	Moisture Content (%)
B-2	0-2	28.5
B-2	2-4	20.3
B-2	4-6	27.7
B-2	6-8	17.8
B-2	8-10	14.1
B-2	10-12	12.3
B-2	13-15	12.2

Sample Location	Sample Depth (feet bgs)	Moisture Content (%)
B-8	0-2	33.5
B-8	2-4	12.6
B-8	4-6	21.9
B-8	6-8	9.1
B-8	8-10	11.1
B-8	10-12	8.7
B-8	13-15	15.7

B-3	0-2	20.6
B-3	2-4	23.4
B-3	4-6	29.2
B-3	6-8	19.8
B-3	8-10	10.2
B-3	10-12	13.9
B-3	13-15	17.3

B-9	0-2	40.2
B-9	2-4	10.2
B-9	4-6	26.2
B-9	6-8	24.5
B-9	8-10	14.6
B-9	10-12	16.3
B-9	13-15	15.2

B-4	0-2	23.0
B-4	2-4	21.9
B-4	4-6	8.7
B-4	6-8	25.1
B-4	8-10	27.8
B-4	10-12	33.8
B-4	13-15	25.1

B-10	0-2	17.7
B-10	2-4	16.9
B-10	4-6	11.9
B-10	6-8	23.1
B-10	8-10	25.6
B-10	10-12	29.4
B-10	13-15	21.7

Project: Ground Mount Array - Pfister Energy, Inc.

Project Location: 201 Main Street, Durham, CT

GeoInsight Project No: 8672-000

Test Date: 1/31/18

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Environmental Strategy & Engineering
Practical in Nature

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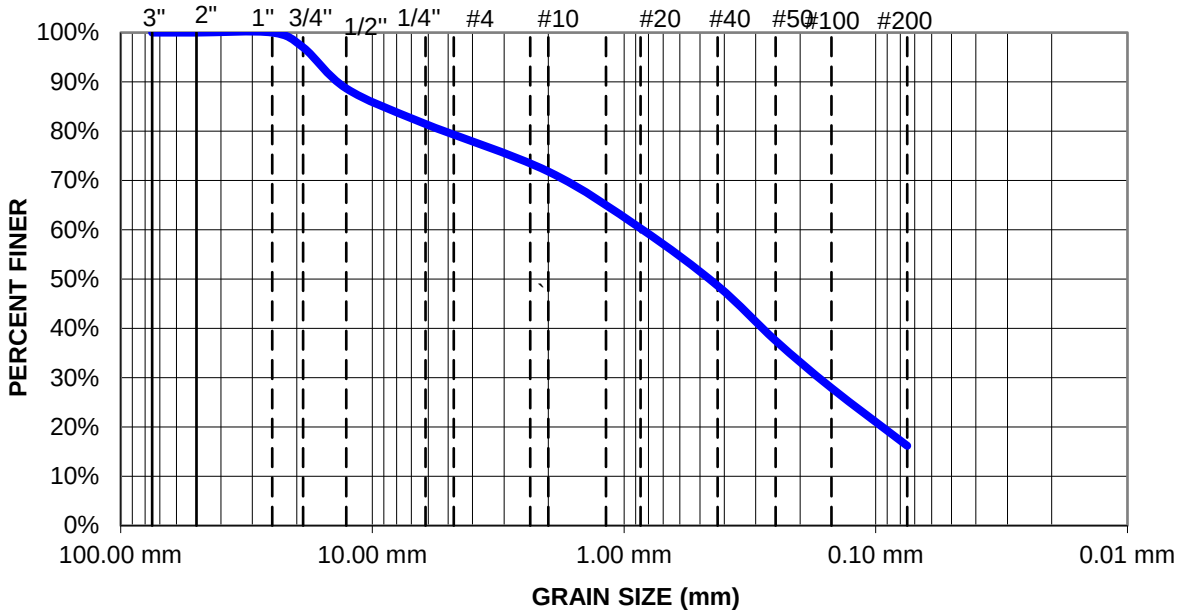
Particle Size Distribution Report



% +3"	%Gravel		%Sand			%Fines
	Coarse	Fine	Coarse	Medium	Fine	
0.0	3.0%	15.3%	9.9%	23.2%	32.5%	16.2%

SIEVE SIZE	PERCENT FINER	SPEC. LIMITS	Pass? (X=NO)
3 "	100.0%		
2 "	100.0%		
1 "	100.0%		
3/4 "	97.0%		
1/2 "	88.7%		
1/4 "			
# 4	81.7%		
# 8			
# 10	71.8%		
# 16			
# 20	60.3%		
# 40	48.6%		
# 60	37.5%		
# 100	27.9%		
# 200	16.2%		

Material Description

Brown, fine to medium SAND, little fine Gravel and Silt.

Atterberg Limits

PL = NA LL = NA PI = NA

Coefficients and Gradation

D_{85} =	9	D_{60} =	0.85	D_{50} =	0.5
D_{30} =	0.175	D_{15} =	0.06	D_{10} =	0.05
C_u =	17	C_c =	0.720588		

Classification

UCS = **SM** AASHTO = NA

Remarks

Sample No.: B-1 **Source of Sample:** In Place **Test Date:** 1/29/18

Location: Pfister Energy **Collection Date:** 1/16/18 **Elev./Depth:** 2-4'

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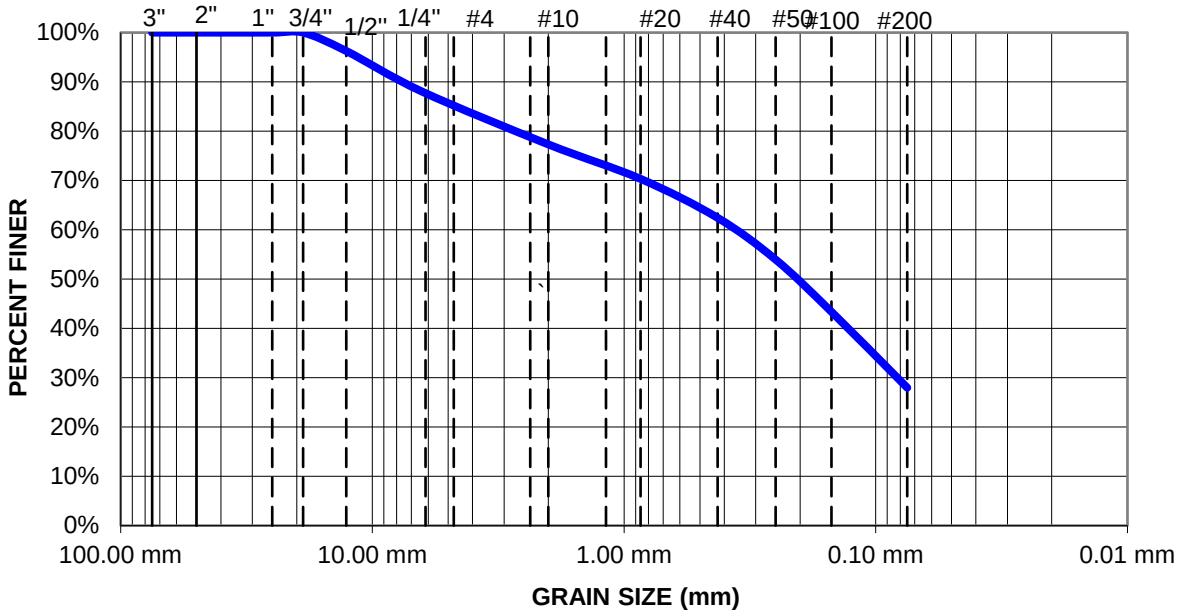
www.geoinsightinc.com

Particle Size Distribution Report



% +3"	%Gravel		%Sand			%Fines
	Coarse	Fine	Coarse	Medium	Fine	
0.0	0.0%	12.0%	10.7%	14.9%	34.5%	28.0%

SIEVE SIZE	PERCENT FINER	SPEC. LIMITS	Pass? (X=NO)
3 "	100.0%		
2 "	100.0%		
1 "	100.0%		
3/4 "	100.0%		
1/2 "	96.3%		
1/4 "			
# 4	88.0%		
# 8			
# 10	77.3%		
# 16			
# 20	70.3%		
# 40	62.4%		
# 60	54.0%		
# 100	43.4%		
# 200	28.0%		

Material Description

Brown, fine to medium SAND, some Silt, little fine Gravel.

Atterberg Limits

PL = NA LL = NA PI = NA

Coefficients and Gradation

D_{85} = 5 D_{60} = 0.4 D_{50} = 0.2
D_{30} = 0.8 D_{15} = 0.4 D_{10} = 0.3
C_u = 1.333333 C_c = 5.333333

Classification

UCS = **SM** AASHTO = NA

Remarks

Sample No.: B-5 **Source of Sample:** In Place **Test Date:** 1/28/18
Location: Pfister Energy **Collection Date:** 1/16/18 **Elev./Depth:** 4-6'

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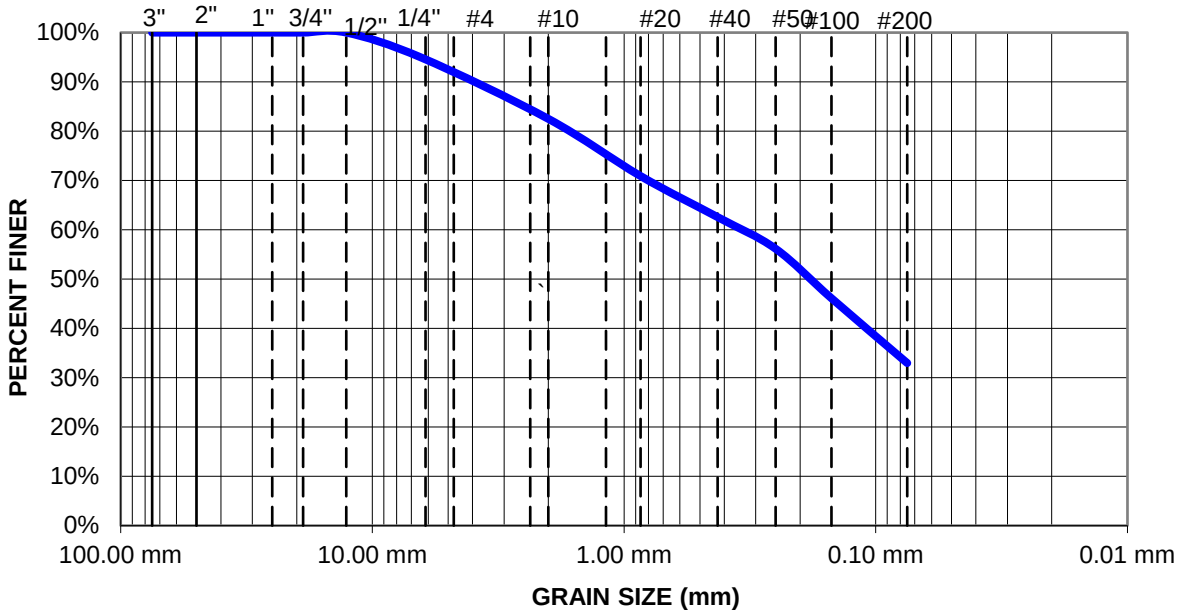
Particle Size Distribution Report



% +3"	%Gravel		%Sand			%Fines
	Coarse	Fine	Coarse	Medium	Fine	
0.0	0.0%	5.1%	12.4%	19.9%	29.6%	33.0%

SIEVE SIZE	PERCENT FINER	SPEC. LIMITS	Pass? (X=NO)
3 "	100.0%		
2 "	100.0%		
1 "	100.0%		
3/4 "	100.0%		
1/2 "	100.0%		
1/4 "			
# 4	94.9%		
# 8			
# 10	82.5%		
# 16			
# 20	70.9%		
# 40	62.6%		
# 60	56.2%		
# 100	46.1%		
# 200	33.0%		

Material Description

Brown, fine to coarse SAND, some Silt, trace fine Gravel.

Atterberg Limits

PL = NA LL = NA PI = NA

Coefficients and Gradation

D_{85} =	2.5	D_{60} =	0.35	D_{50} =	0.19
D_{30} =	0.7	D_{15} =	0.3	D_{10} =	0.2
C_u =	1.75	C_c =	7		

Classification

UCS = **SM** AASHTO = NA

Remarks

Sample No.: B-5 **Source of Sample:** In Place **Test Date:** 1/28/18

Location: Pfister Energy **Collection Date:** 1/16/18 **Elev./Depth:** 13-15'

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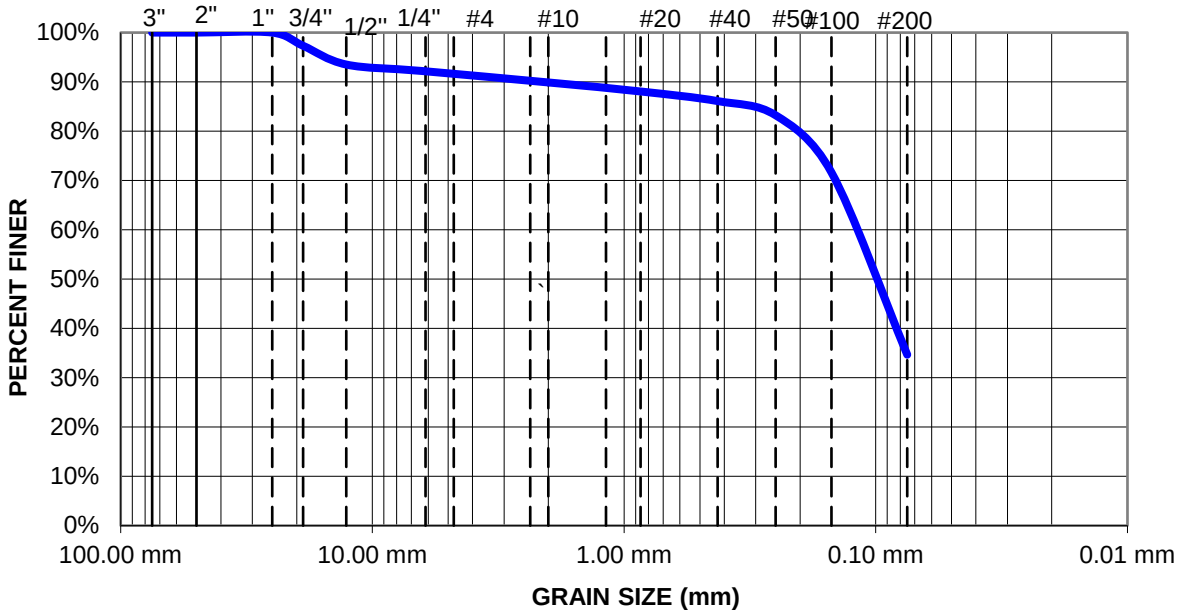
Particle Size Distribution Report



% +3"	%Gravel		%Sand			%Fines
	Coarse	Fine	Coarse	Medium	Fine	
0.0	2.7%	5.1%	2.3%	3.8%	51.4%	34.7%

SIEVE SIZE	PERCENT FINER	SPEC. LIMITS	Pass? (X=NO)
3 "	100.0%		
2 "	100.0%		
1 "	100.0%		
3/4 "	97.3%		
1/2 "	93.5%		
1/4 "			
# 4	92.2%		
# 8			
# 10	89.9%		
# 16			
# 20	88.1%		
# 40	86.1%		
# 60	83.2%		
# 100	71.6%		
# 200	34.7%		

Material Description

Brown, fine to SAND and SILT, trace Gravel.

Atterberg Limits

PL = NA LL = NA PI = NA

Coefficients and Gradation

D_{85} = 0.3 D_{60} = 0.125 D_{50} = 0.1
D_{30} = 0.07 D_{15} = 0.05 D_{10} = 0.045
C_u = 2.777778 C_c = 0.871111

Classification

UCS = **SM** AASHTO = NA

Remarks

Sample No.: B-6 **Source of Sample:** In Place **Test Date:** 1/29/18
Location: Pfister Energy **Collection Date:** 1/15/18 **Elev./Depth:** 6-8

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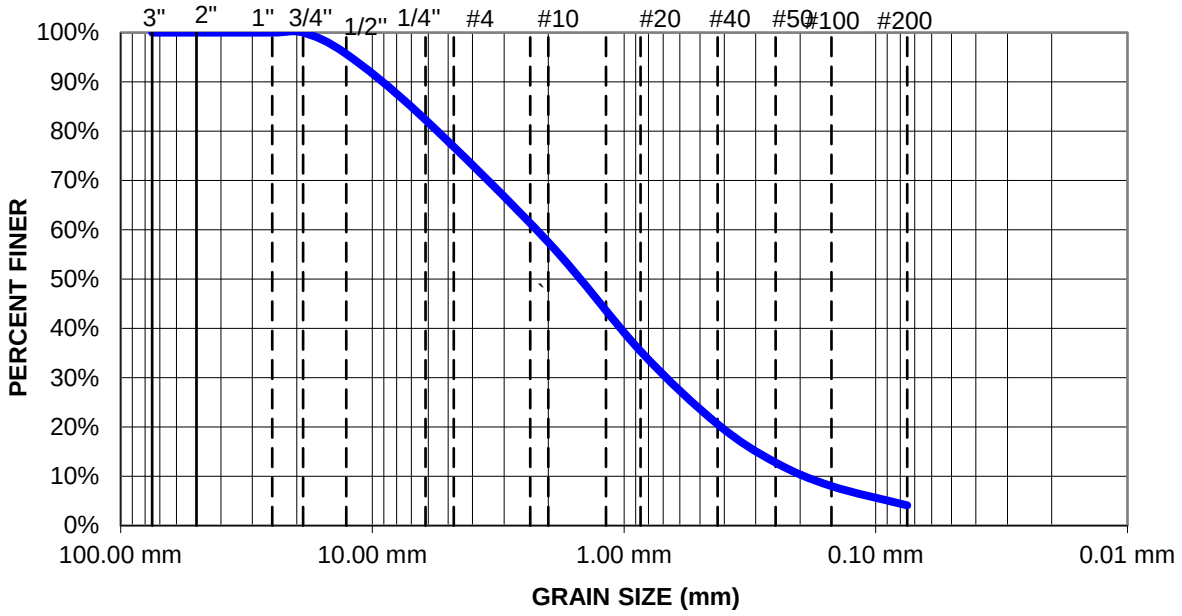
Particle Size Distribution Report



% +3"	%Gravel		%Sand			%Fines
	Coarse	Fine	Coarse	Medium	Fine	
0.0	0.0%	17.0%	25.5%	36.9%	16.5%	4.1%

SIEVE SIZE	PERCENT FINER	SPEC. LIMITS	Pass? (X=NO)
3 "	100.0%		
2 "	100.0%		
1 "	100.0%		
3/4 "	100.0%		
1/2 "	95.7%		
1/4 "			
# 4	83.0%		
# 8			
# 10	57.5%		
# 16			
# 20	35.4%		
# 40	20.6%		
# 60	12.8%		
# 100	8.0%		
# 200	4.1%		

Material Description

Brown, fine to coarse SAND, some fine Gravel, trace Silt.

Atterberg Limits

PL = NA LL = NA PI = NA

Coefficients and Gradation

D_{85} =	7	D_{60} =	2.25	D_{50} =	1.5
D_{30} =	0.7	D_{15} =	0.25	D_{10} =	0.2
C_u =	11.25	C_c =	1.088889		

Classification

UCS = **SW** AASHTO = NA

Remarks

Sample No.: B-7 **Source of Sample:** In Place **Test Date:** 1/29/18

Location: Pfister Energy **Collection Date:** 1/16/18 **Elev./Depth:** 2-4'

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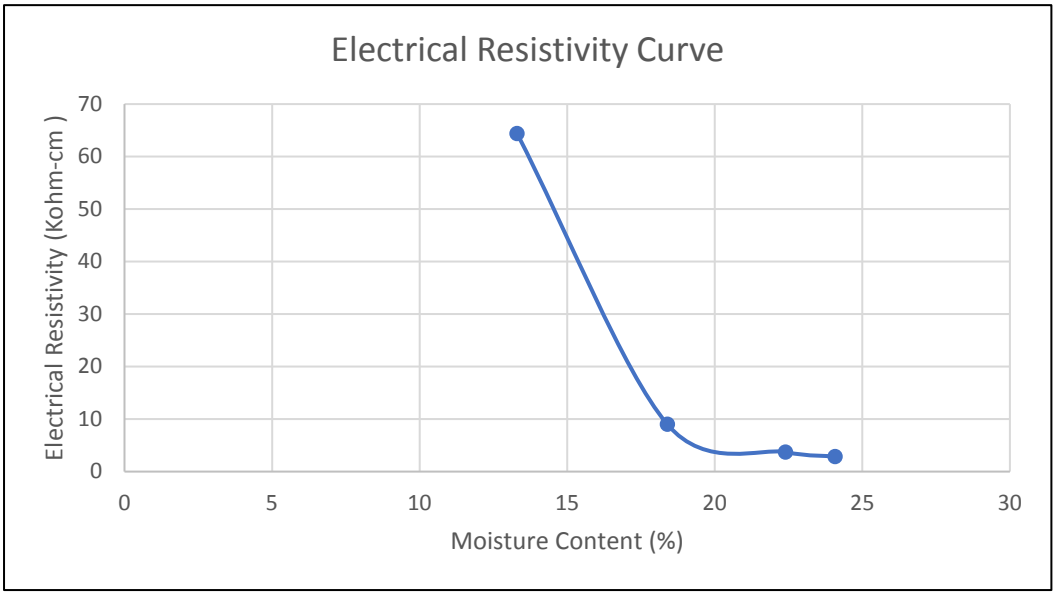
ELECTRICAL RESISTIVITY LABORATORY TEST REPORT
ASTM G187 SOIL BOX METHOD

Project Name: Ground Mount Array - Pfister Energy, Inc.
GeoInsight Project No.: 8672-000

Sample Location: B-2
Sample Depth: 2-4 feet



Test Data

Resistivity (Kohm-cm)	Moisture Content (%)
64.4	13.3
9.02	18.39
3.72	22.39
2.9	24.07

Run By: ATS
Date: 1/31/2018
Approved By: BTN

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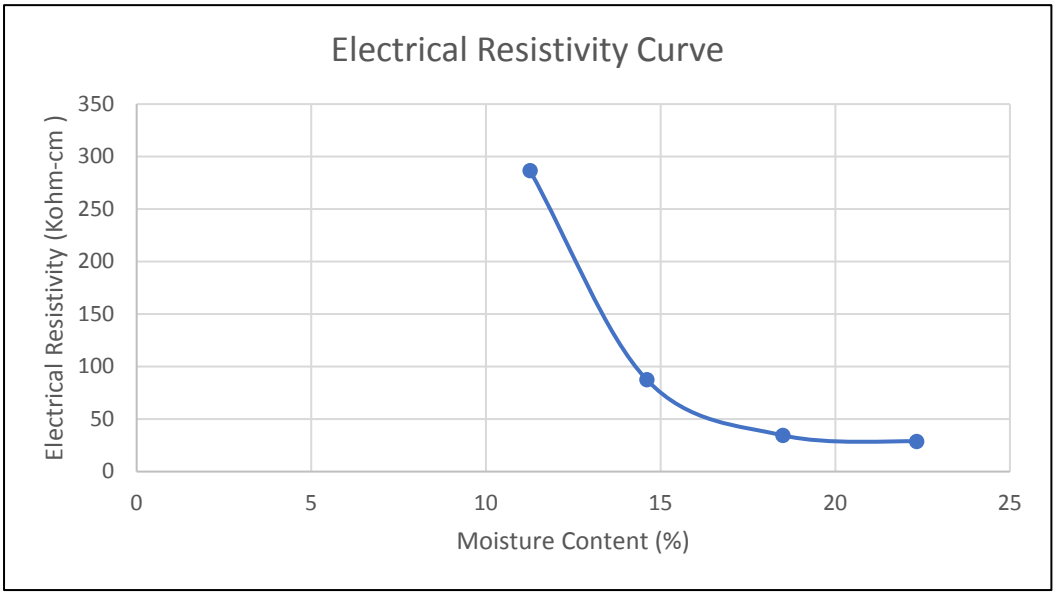
ELECTRICAL RESISTIVITY LABORATORY TEST REPORT
ASTM G187 SOIL BOX METHOD

Project Name: Ground Mount Array - Pfister Energy, Inc.
GeoInsight Project No.: 8672-000

Sample Location: B-4
Sample Depth: 2-4 feet



Test Data

Resistivity (Kohm-cm)	Moisture Content (%)
286.6	11.26
87.4	14.61
34.52	18.5
28.8	22.33

Run By: ATS
Date: 1/31/2018
Approved By: BTN

GeoInsight
Environmental Strategy & Engineering
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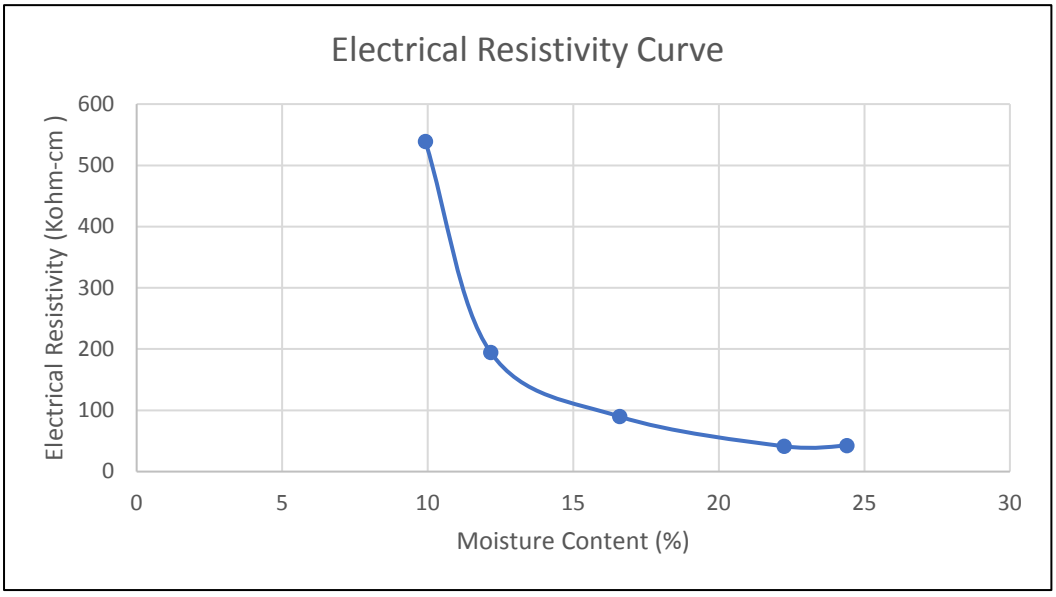
ELECTRICAL RESISTIVITY LABORATORY TEST REPORT
ASTM G187 SOIL BOX METHOD

Project Name: Ground Mount Array - Pfister Energy, Inc.
GeoInsight Project No.: 8672-000

Sample Location: B-11
Sample Depth: 2-4 feet



Test Data

Resistivity (Kohm-cm)	Moisture Content (%)
538.9	9.92
194.7	12.16
89.8	16.59
41.3	22.25
42.65	24.4

Run By: ATS
Date: 1/31/2018
Approved By: BTN

Client:	GeoInsight, Inc.				
Project:	Durham Manufacturing Solar Array				
Location:	Durham, CT			Project No:	GTX-307573
Boring ID:	---	Sample Type:	---	Tested By:	jbr
Sample ID:	---	Test Date:	01/30/18	Checked By:	emm
Depth :	---	Test Id:	440558		

pH of Soil by ASTM D4972

Boring ID	Sample ID	Depth	Visual Description	pH of Soil in Distilled Water	pH of Soil in Calcium Chloride
B-2	---	2-4	Moist, reddish brown sand with gravel	6.5	6.0
B-4	---	2-4	Moist, reddish brown sand with gravel	5.5	5.2
B-11	---	2-4	Moist, reddish brown sand with gravel	5.5	5.2

Notes: Sample Preparation: screened through #10 sieve

Method A, pH meter used

FUGRO USA LAND, INC.

6100 HILLCROFT
PHONE (713) 369-5400

HOUSTON, TEXAS 77081
FAX (713) 369-5518

RESULTS OF TESTS

PROJECT: DURHAM MANUFACTURING SOLAR (GTX 307573)
SAMPLE ID: B-2, 2 - 4

FOR: GEOTESTING EXPRESS, INC.
125 NAGOG PARK ACTION, MA 01720

REPORTED TO: ETHAN MARRO

LAB NUMBER: 0123030

REPORT DATE: 01-26-18
CLIENT NUMBER:
JOB NUMBER: 04.1115-0003
REPORT NUMBER:
DATE SAMPLED:
TIME SAMPLED:
SAMPLED BY: CLIENT
DATE RECEIVED: 01-23-18
TIME RECEIVED: 1100
RECEIVED BY: SD

PARAMETER	RESULTS	UNITS	METHOD	TIME/DATE	ANALYST
Sulfate, Soluble	47 *	mg/kg	AASHTO T 290	1000/01-26-18	SD
Chloride, Soluble	< 30 *	mg/kg	AASHTO T 291	1030/01-26-18	SD

SO4CL 008-18

Respectfully submitted,

*** Dry weight basis**

Steve DeGregorio
Chemist

SD

END OF REPORT

FUGRO USA LAND, INC.

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HOUSTON, TEXAS 77081
FAX (713) 369-5518

RESULTS OF TESTS

PROJECT: DURHAM MANUFACTURING SOLAR (GTX 307573)
SAMPLE ID: B-4, 2 - 4

FOR: GEOTESTING EXPRESS, INC.
125 NAGOG PARK ACTION, MA 01720

REPORTED TO: ETHAN MARRO

LAB NUMBER: 0123029

REPORT DATE: 01-26-18
CLIENT NUMBER:
JOB NUMBER: 04.1115-0003
REPORT NUMBER:
DATE SAMPLED:
TIME SAMPLED:
SAMPLED BY: CLIENT
DATE RECEIVED: 01-23-18
TIME RECEIVED: 1100
RECEIVED BY: SD

PARAMETER	RESULTS	UNITS	METHOD	TIME/DATE	ANALYST
Sulfate, Soluble	32 *	mg/kg	AASHTO T 290	1000/01-26-18	SD
Chloride, Soluble	< 30 *	mg/kg	AASHTO T 291	1030/01-26-18	SD

SO4CL 008-18

Respectfully submitted,

* Dry weight basis

Steve DeGregorio
Chemist

SD

END OF REPORT

FUGRO USA LAND, INC.

6100 HILLCROFT
PHONE (713) 369-5400

HOUSTON, TEXAS 77081
FAX (713) 369-5518

RESULTS OF TESTS

PROJECT: DURHAM MANUFACTURING SOLAR (GTX 307573)
SAMPLE ID: B-11, 2 - 4

FOR: GEOTESTING EXPRESS, INC.
125 NAGOG PARK ACTION, MA 01720

REPORTED TO: ETHAN MARRO

LAB NUMBER: 0123028

REPORT DATE: 01-26-18
CLIENT NUMBER:
JOB NUMBER: 04.1115-0003
REPORT NUMBER:
DATE SAMPLED:
TIME SAMPLED:
SAMPLED BY: CLIENT
DATE RECEIVED: 01-23-18
TIME RECEIVED: 1100
RECEIVED BY: SD

PARAMETER	RESULTS	UNITS	METHOD	TIME/DATE	ANALYST
Sulfate, Soluble	< 30 *	mg/kg	AASHTO T 290	1200/01-26-18	SD
Chloride, Soluble	< 30 *	mg/kg	AASHTO T 291	1030/01-26-18	SD

SO4CL 008-18

Respectfully submitted,

* Dry weight basis

Steve DeGregorio
Chemist

SD

END OF REPORT