PHILIP M. SMALL
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July 30, 2020

VIA ELECTRONIC MAIL

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

Re: ***PETITION NO. 1345A –*** *North Stonington Solar Center, LLC declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 15 MW AC solar photovoltaic electric generating facility on approximately 353 acres comprised of four abutting parcels located east of Pendleton Hill Road, north of the Pawcatuck River and south of Interstate-95 with proposed access from Ella Wheeler Road, and associated electrical interconnection to Eversource Energy's Shunock Substation west of Pendleton Hill Road in North Stonington, Connecticut. Request for 1) an amendment to the declaratory ruling; and 2) approval of a Development and Management Plan –*
Response to Interrogatories 1 – 31 (Set 1)

Dear Attorney Bachman:

On behalf of North Stonington Solar Center, LLC, attached are copies of North Stonington Solar Center's responses to Connecticut Siting Council's Interrogatories 1 through 31 (Set 1).

Please contact me at 860-509-6575 with any questions or if you need additional information.

Very truly yours,

BROWN RUDNICK LLP

By: _____
Philip M. Small
Counsel for North Stonington Solar Center, LLC

PMS/jmb
Enclosures

63821929 v1-WorkSiteUS-036131/0001

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-1:

Referring to the Request for Amendment p. 5, if the Project was re-designed and reduced in size after the Council's approval on October 26, 2018, why did the March 17, 2020 Development and Management Plan filing contain a site plan with clearing limits based on the Council's approved site layout? Furthermore, why was an erroneous site clearing plan included within the March 16, 2020 Partial Construction General Permit submittal to the DEEP Stormwater Division?

Response:

The March 17, 2020 Development and Management Plan filing and the March 16, 2020 Partial Construction General Permit submittal filing were designed using 395-400 watt solar panels (also referred to as modules). After submission of that plan, the module purchase order was finalized on March 24th, 2020. Previous indications from our module-supplier partners were that delivered wattages would be in the 395-400 watt range (the Jinko modules); however, late in the procurement process we were offered an opportunity to secure 435 watt modules (the Longi modules) at a competitive price. It was an unfortunate coincidence of timing that the official change to the 435 watt modules occurred after submission of the March 17, 2020 Development and Management Plan and March 16, 2020 Partial Construction General Permit; however, the change allowed further optimization of the site plan as described in the Request for Amendment, reducing the overall footprint of the site and associated clearing within the boundaries of the Alternate 2 site plan approved under the October 26, 2018 Declaratory Ruling.

It is also worth noting that for solar projects in general, it is common for module selection to change at the final design stage due to product availability, price fluctuations, and the like, as modules are usually one of the last components of the system to be ordered, right before construction is anticipated to begin.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-2:

Referring to the March 17, 2020 Development and Management Plan, response to the Council interrogatory 5 dated March 17, 2020, the total clearing for the Project redesign was to be limited to 77 acres. Why has the acreage increased to 84 acres in the Request for Amendment?

Response:

As the Siting Council correctly noted in its April 24, 2020 ruling, the March 17, 2020 Development and Management Plan proposed site plan boundaries (and associated clearing) that were inconsistent with the Alternate 2 site plan approved in the 2018 Declaratory Ruling. In comparison, the Request for Amendment, using the boundaries of the approved Alternate 2 site plan, requires 84 acres of clearing, which is a reduction from 95 acres of clearing which was considered and approved in the 2018 Declaratory Ruling.

The D&M Plan submitted on March 17th, 2020 was designed for the Alternate 1 site plan. The 7 additional acres of clearing is a result of the difference between Alternate 1 and Alternate 2 site plans. We have submitted a revised D&M Plan that corresponds with Alternate 2 site plan to accommodate the system equipment changes and mitigate slope challenges as it relates to installing the solar tracking system.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-3:

If the initial D&M Plan was limited to 77 acres of clearing, why was 91.2 acres of clearing specified in the March 16, 2020 Partial Construction General Permit request to the DEEP Stormwater Division? What site clearing plan and acreage amount did the DEEP Stormwater Division approve on April 14, 2020?

Response:

Alt 1 layout and Alt 2 layout were both approved by the DEEP Stormwater Division. The original D&M Plan submitted reflected the original system design with Jinko solar panels, and utilized the Alt 1 layout. Due to solar panel availability, the system had been modified to use Longi solar panels to be installed in a different configuration on the property that aligned with the approved Alt 2 layout. Alt 1 layout includes 77 acres of clearing, and Alt 2 layout includes 84 acres of clearing. 91.2 acres were not cleared as specified in the application. Only 84 acres were cleared to align with Alt 2 layout.

The clearing plan and acreage amount submitted to DEEP on April 14th, 2020 is consistent with the Alt 1 layout (77 acres of clearing). On May 5th, 2020, CS Energy submitted updated clearing limits consistent with Alt 2 layout (84 acres). DEEP provided approval of the new clearing limits on May 14th, 2020.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-4:

1. Given that the Project has been re-designed several times since the Council's approval on October 26, 2018, and clearing work has been conducted, provide a site plan that clearly shows the following:
    a) areas that were completely cleared;
    b) areas that were selectively cleared;
    c) areas that remain to be cleared;
    d) areas that require grubbing; and
    e) clearing boundary of the Council's October 26, 2018 approved site plan.

Response:

The project engineering team has compiled a set of drawings which clarify each of the parameters above. Please see Exhibit A attached to these Responses. Please let us know if any items are not immediately clear, we are happy to provide further explanation as needed.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-5:

Referring to the Request for Amendment, Appendix D, - SWPCC Phase II Appendix C does not contain a site plan. Please submit. Has this site plan been submitted to the DEEP Stormwater Division? If so, when?

Response:

Yes, the site plan was submitted to DEEP Stormwater Division on May 26, 2020 as part of the SWPCP Phase II submission and is attached to these Responses as Exhibit B. We have been in frequent contact with CT DEEP since submitting and continue to await their feedback on the submission. We will continue to keep you updated.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-6:

Referring to the Request for Amendment Appendix D, - SWPCC Section 5.8 and 5.9, the Limit of Disturbance (LOD) is listed as ±142-acres and is defined as the total area within the project fence. The Total Disturbed Area (TDA) is listed as ±110-acres but is defined as all areas within the perimeter fence - the same definition as the LOD. Please clarify.

Response:

Our apologies, there appear to be a few errors in our SWPCC submittal which have been highlighted by this question. First, the definition of Limit of Disturbance is not the total area within the project fence, but rather the total effected acreage including cleared land outside the project fence. You can see this boundary designated with the LOD line in the submitted plans. Second, the 142 acre figure is outdated and the figure in the submitted plans is now 146 acres.

The Total Disturbed Area is meant to refer to the area behind the project fence. This number is correctly listed as 110 acres.

Since the plan is currently under review by CT DEEP, we will also provide this update to CT DEEP directly.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-7:

Referring to the Request for Amendment, p. 6, if the Project LOD has been reduced from the original approval, what areas within the Project limits are now available to install solar modules?

Response:

The areas designated to install solar modules in the site plan attached to the Request for Amendment are still fully within the boundaries approved for modules under the Alternate 2 site plan approved in the October 2018 declaratory ruling.

It may be helpful to explain why the drop in total modules is quite significant relative to the overall reduction to the LOD. Two items are at play here. First, the 435W modules are 5% longer than what was originally approved which makes the change in footprint not directly proportional to the reduction in modules. Second, we increased the spacing between rows since the 435W modules are bifacial and they will supplement their energy collection by absorbing light reflected onto the back of the panel. To operate efficiently, these panels require more space between the rows so that light may reflect off the ground rather than be caught in shadow.

The net result of these two changes is a decrease in the LOD in comparison to the 2018 approval.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-8:

As stated in the Council's Staff report attached to the Council's October 26, 2018 Declaratory Ruling, the Council sought to re-locate as many modules as possible from the steep slopes in the northeast areas of the site. What other areas on the site have been examined prior to submission of the initial D&M Plan, and the current Request for Amendment, for possible re-location of modules from the steep slopes?

Response:

The Request for Amendment uses the boundaries of the approved Alternate 2 site plan, which was initially prepared in response to the Council's request to examine removing modules from the northeast hillside present in the Alternate 1 site plan. (See page 11 of the Staff Report attached to the 2018 Declaratory Ruling.) It was our belief that that the Siting Council's concerns regarding the northeast areas of the site were addressed when it approved Alternate 2 site plan.

The solar system design optimization requires an iterative process to account for a variety of constraints, with the end goal of finding the ideal overall footprint which is capable of supporting the project capacity with the lowest possible quantity of earth work while simultaneously minimizing shading and rows tilting to the north, away from the sun and considering how to mitigate environmental impacts. The site plan attached to the Request for Amendment was prepared by optimizing the placement of the 435 watt panels (given a variety of constraints) within the boundaries of the approved Alternate 2 site plan.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-9:

The March 17, 2020 D&M Plan filing included 395 watt and 400 watt modules to be installed at the site. The new modules in the Request for Amendment are rated at 435 watts. Please explain the rationale for the change and changes to facility output. Due to the higher wattage panels, would the amended project occupy a smaller solar array footprint than the solar array layout shown in the March 17, 2020 D&M Plan?

Response:

Regarding the rationale for the change in module wattage: Please see our responses to CSC-1, CSC-7, and CSC-8 since we discuss this topic in those sections as well. The module market is constantly evolving as panel technology improves. The permitting process for a project may take several years, so we have to make educated guesses as to what wattage panels will be commercially available when the project is ready to be built. It is common to take a conservative approach in project-planning given these uncertainties, knowing that reductions in site plan acreage may be possible if the trend in increased module efficiency continues. Fortunately, this is what has occurred for the North Stonington project. We planned for a wattage module we were confident we would be able to procure, and in the interim, technology progressed a bit faster than anticipated and we were able to source higher wattage panels.

Regarding changes to facility output: the output of the facility is held constant through all the iterative design phases, regardless of the modules used. Constraints on output are determined through the interconnection study process in consultation with the interconnecting utility. The facility is not able to deliver more output than what is agreed to with the utility, so there is no incentive to increase the facility output, even with an increase in panel efficiency.

The current amended project layout has 110 acres behind the fence. The previously approved design by the Council had 118 acres behind the fence. Overall, this new design is impacting 8 fewer acres.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-10:

What is the current status of work at the site? If clearing has been completed, has the resulting wood material been removed from the site? If wood chipping was conducted on-site, in what areas have wood chips been stockpiled?

Response:

The clearing activities covered under our approved CT-DEEP Phase 1 SWPCP plan have been completed. Most cleared wood material (both chipped and whole) has been removed and disposed of at the Plainfield Renewable Energy biomass generating station in Plainfield, CT. A limited amount of chipped material has been spread as mulch evenly along the utility pole corridor to the interconnection point. We would also like to note that there will be additional chipped material to be removed during the grubbing operation after we start construction.

Relative to current activities, we are continuing to perform our SWPCP plan inspections for all erosion control measures. Plus, all environmental monitoring obligations relative to the spadefoot toad habitat continue to occur.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-11:

Describe any site stabilization Best Management Practices that have been deployed to date.

Response:

We have been diligently executing all erosion control and site stabilization measures specified in our CT-DEEP approved Phase 1 SWPCP plan. We continue to perform all monitoring required under the permit as well. For specifics, please reference the Civil Design which is provided as Exhibit B.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-12:

Was the environmental monitor contacted prior to the commencement of site clearing in regards to specific clearing work procedures to reduce the potential for impacts to the State-endangered spadefoot toad or other-site resource areas? If so, who was contacted and on what date? What work procedures were recommended /implemented?

Response:

Yes, we have been working hand-in-hand with the environmental monitor for several years. The site lead is Dean Gustafson (Senior Wetland Specialist), and the main site contact is Dennis Quine, both with All-Points Technology Corporation.

Specific to the clearing activities, we had multiple site walks before any work was started to ensure we were meeting their requirements. On April 10th, 2020 we conducted our first site walk with All-Points prior to tree clearing. In addition, the monitor was present daily during the clearing activities and has continued to monitor now that the work is complete.

The main directive from All Points throughout the entire process to date has been to maintain the Silt fence boundary in the Spadefoot toad area and to monitor daily for any impacts of the clearing on that area.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-13:

Has the agricultural field west of Wetland 9 been stabilized in accordance with the information presented in the response to Petition 1345 Council interrogatory 105? If so, when was this work performed? If not, revise the site plans to include this information.

Response:

Silt fence has been installed per the Phase 1 SWPCP, which is currently protecting Wetland 9. In addition, the field itself is no longer cultivated with corn as it was at the time the referenced interrogatory 105 question was submitted in October, 2018. No corn was planted for the 2020 growing season. The field currently consists of grasses which would satisfy the prior criteria of a 200-400 foot wide grass filter strip.

Since the field is already stabilized with grasses and outside of our proposed limit of disturbance, we intend to allow the natural vegetation to continue to mature and act as a protective buffer to the wetland. Any inadvertent disturbances will be promptly remedied.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-14:

Site Plan ESC-202 (Note 14) indicates grubbing is to occur in the eastern portion of the spadefoot toad no build zone. However, this area was designated for selective clearing and no grubbing according to the site plans approved by the Council on October 26, 2018. Please clarify.

Response:

Note 14 is in error and has been removed. We apologize for the confusion. The layer for the no build zone for the spadefoot toad habitat is placed over the other layers indicating which types of clearing will be performed. Within the region we only performed selective tree clearing with no grubbing. In addition, our spadefoot toad monitor (All Points Technology) was present when this selective clearing was completed to ensure we did not put any undue stress upon the toad habitat.

The updated sheet ESC-202 in Exhibit B is provided for your review. In addition, we have added new clearing sheets (CL-200 to CL-205) which highlight the various clearing regions in an easier to view format.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-15:

Site Plans ESC-202, ESC-203, ESC-204 show extensive areas of site grading. What are the existing grades in these areas? What is the proposed final grade and why is this grade necessary?

Response:

Please see the provided grading and drainage sheets in the same package (G&D 200 to G&D 303). Within these sheets you will see both the existing contours and proposed contours.

As for the necessity of these changes, solar tracker structures have limited slope tolerances. We have a similar goal to the Council of minimizing the amount of grading and have specifically purchased a high-slope upgrade for the proportion of racking within the steepest regions to reach this goal.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-16:

Site Plans ESC-202, ESC-203, ESC 204 show the installation of slope matting in certain areas. Provide Site Plan specifications and installation procedure notes for the matting product that will be used.

Response:

Please see sheet ESC-301 in Exhibit B attached to these Responses calling out the matting specifications and installation procedures. The specific product we intend to use is ECS-2, and the specification sheet is provided in Exhibit D.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-17:

What is the ground slope tolerance for the proposed module racking system?

Response:

The module racking system has a north-south ground slope tolerance up to 17.6% and an east-west ground slope tolerance up to 13.1%, as reflected and accounted for in our design.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-18:

What temporary ground cover will be used to in the solar field areas during active construction (e.g. rack and module installation)? What specific soil stabilization measures will be deployed for soils noted as High Erosion Potential?

Response:

We will be planting a temporary seed in the rack and module areas after site grading completion to help stabilize the soil. This is a standard BMP we follow for all projects and covered in note 17 on sheet ESC-100 of Exhibit B.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-19:

Specify the amount of cut and fills for the Project. If there is excess cut, where will this material be disposed of?

Response:

The Project has a total of 59,909.96 Cubic yards of cut and 59,712.43 cubic yards of fill. Net, this leaves 197.53 cubic yards of excess cut to dispose. We will be spreading and compacting this excess material across the site in a thin layer such that there is no material impact to site grades. This grading plan has been updated since the first submission. Please see updated Civil Design plan set attached to these Responses as Exhibit B. Silt fence, slope matting, and temporary seeding will be used as necessary to prevent sedimentation per Exhibit B.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-20:

Site Plans ESC-202 shows a notation (12) for a 100-year flood zone in the middle of the solar array, please clarify.

Response:

Our apologies, the (12) callout was located incorrectly and has been removed. Please reference the updated plans attached to these Responses as Exhibit B.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-21:

Referring to Site Plan ESC-205, why is clearing and grubbing only specified for a short portion of the utility corridor?

Response:

We have consulted with construction teams experienced with installation of wood pole distribution lines and based on their assessment they will not have any issue working around the remaining stumps within the corridor. We will simply cut the stumps flush to grade. This will help ensure the soil remains stable in the short term as new vegetation fills in post construction.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-22:

Referring to Site Plan ESC 201, can the laydown area be reconfigured to create a larger buffer to the adjacent wetland?

Response:

Yes. Please refer to Exhibit B for the updated design. We will be increasing the buffer by 30 additional feet. Also, we will be installing two rows of silt fence as a barrier between the laydown yard and the wetland as an additional protective measure.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-23:

According to the Site Plans and related aerial imagery the outfall for Stormwater Basin 4 is discharging onto a dirt road located on an abutting property. Why was this basin outfall location selected? Would channelized erosion occur on the dirt road? Can the outfall be relocated away from this property?

Response:

We will not be discharging to the road. Basin 4 will discharge approximately 35' north of the road into a natural topographical low. We selected this drainage path based upon the existing grades as this is currently a natural drainage path. We believe this solution will not cause any undesired erosion.

Moving the outfall from this point would be challenging and require a more significant amount of grading. We believe that following the existing natural terrain will be the lowest impact solution at this location.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-24:

The stormwater basin sizing in the Request for Amendment appears more extensive than the initial site design. Has North Stonington Solar Center consulted with the DEEP Stormwater Division prior to submitting the Phase II Stormwater Control Plan? If so, when and what were their comments? Was a pre-application site walk held? Did DEEP comment on construction occurring on the steep northeast area slopes?

Response:

As the design for the project matured, the site grading plans gained resolution and the stormwater retention requirements increased. We completed our basin sizing calculations in full compliance to the Connecticut Stormwater Quality Manual.

Since we are not proposing anything which is conflicting with DEEP requirements, we did not have any pre-submission conversations relative to basin sizing. We are currently awaiting CT DEEP's response to our Phase 2 submittal and will continue to update the Council.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-25:

What is the substrate of the proposed stormwater basins?

Response:

We will be using non-compacted/rototilled native material and seeding as noted within the submitted plans.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-26:

Why are the solar facility access roads designed at a 20-foot width? Would 16-foot wide roads be sufficient for construction and post-construction activities?

Response:

The 20' roads are a carryover from the 2018 plans included in the ALT 2 layout from the October 2018 declaratory ruling. A road width of 16' would be sufficient for the project; however, 20' roads were in the plans previously approved by the Council in the Alternate 2 layout from 2018. In order to minimize deviations from the approved layout, we kept the roads at 20'.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-27:

Provide more information regarding the cemetery access path. What is its design and why is it necessary?

Response:

The cemetery access path is a requirement of the landowner, who requested that we add a pathway from the main entrance to the existing cemetery, which sees several visitors each year. The design is a 10' dirt footpath inside of the LOD and outside of the perimeter fence. The pathway will be maintained by the project.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-28:

Can the selected seed mix for the solar field areas be modified to include pollinator species?

Response:

Our current mix contains pollinator species which support various insect populations. For example, white clover provides habitat for honeybees. Big and little bluestem acts as a larval host for multiple butterfly species. And switchgrass acts as a larval host for butterflies as well as acts as an overwintering host for bees.

We selected the current mix both because it is pre-approved by CT DEEP, and also because it meets with our solar specific requirements of minimizing impacts to production and maintenance. Given that the current mix is approved by CT DEEP, our preference would be not to modify the mix, but we are receptive to any concerns the Council may have about the current mix.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-29:

The site plans do not contain any environmental mitigation notes or information regarding the Wetland and Vernal Pool Protection Plan. Please revise the plans to include specific notes regarding sensitive areas, resource avoidance measures and notations, and environmental monitor inspection protocols.

Response:

We updated our notes to reflect these mitigation measures. Please see Exhibit B.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-30:

Provide a revised Spadefoot Toad Mitigation Plan that includes revised inspection protocols (the current plan is out of date and does not include recent site clearing).

Response:

Please see attached to these Responses as Exhibit C an updated Spadefoot Toad Mitigation Plan reflecting all work to date.

Witness: **Jacob Weiser (CS Energy) – 7/27/2020**

Question CSC-31:

1. Regarding the Operations and Maintenance Plan, provide the following;
    a) Information regarding the potential use of herbicides at the site. Identify potential reasons for herbicide use over mowing, and areas where herbicide use will be avoided.
    b) Information regarding periodic cleaning of the solar panels. What chemicals will be used for panel cleaning?
    c) Provide information regarding *Tree Trimming Areas for Shading Management.*

Response:

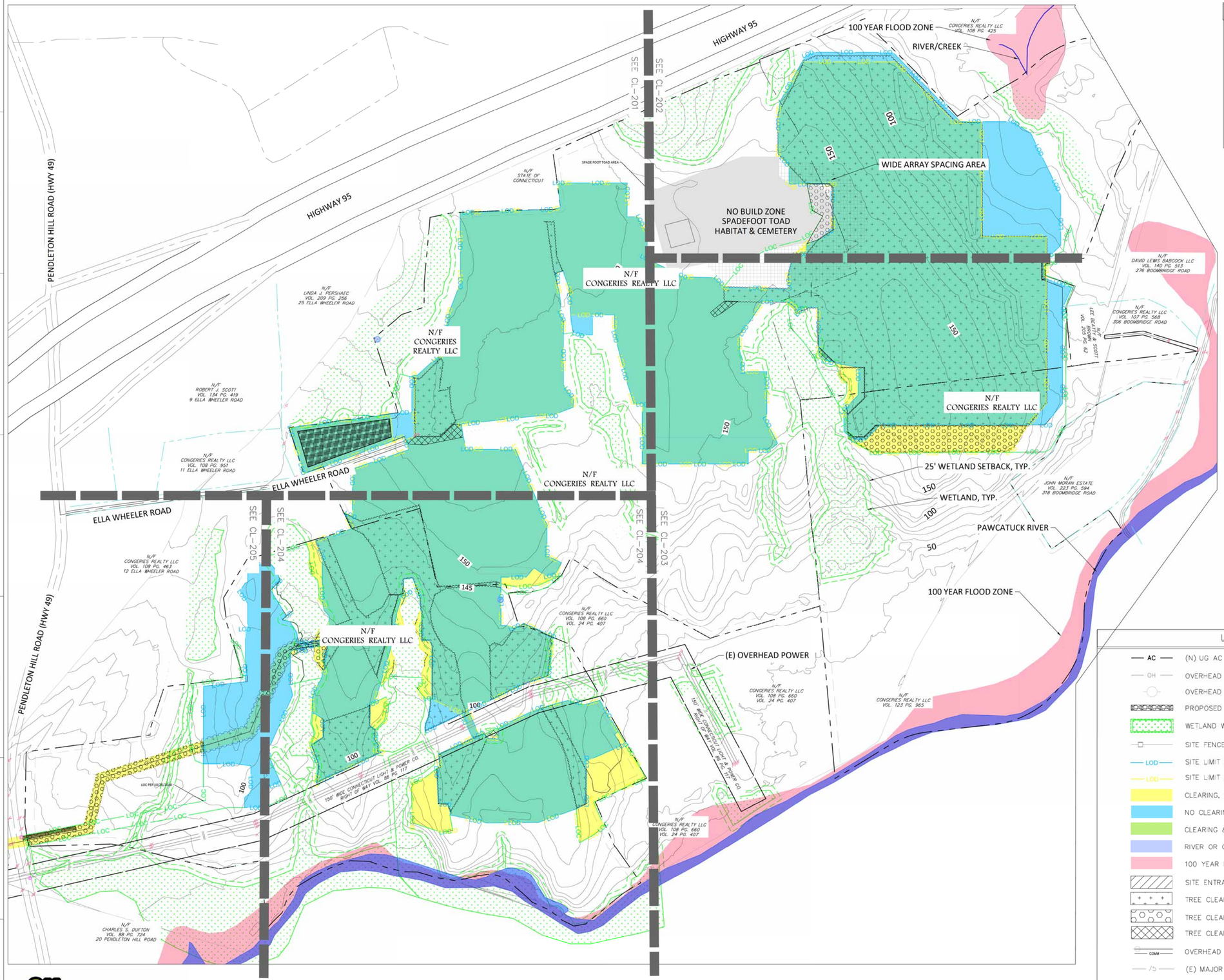
Herbicides are not anticipated to be necessary and would only be used in one-off, non-standard situations. Herbicides are not part of our standard operations and maintenance plan.

Given the frequency of rainfall in the region, we are not including panel washing as part of our standard maintenance plan. Any cleaning will be only be performed on an as-needed basis if the panels start seeing decreased production due to accumulated dirt. Cleaning is accomplished with only water.

In certain regions surrounding the site we have thinned the surrounding trees to prevent excessive shading to the panels. The thinning entailed cutting and removing all trees in these areas. No grubbing has occurred in these areas. The tops of stumps were cut to below 18 inches from grade, and the wood chipped and sent to Plainfield Renewable Energy. Sheets CL-200 to CL-205 in Exhibit A highlight where the selective tree trimming was completed ("yellow areas").

EXHIBIT A

CLEARING PLAN



1 CL-200 **CLEARING PLAN SITE OVERVIEW**

Scale: 1" = 250'

N 0 250 500 Feet

Know what's below. Call before you dig. 811

LOCATION: E:\DROPBOX (SOA)\ENGINEERING\CS ENERGY\2020-03-09_STONINGTON\CAD\CLEARING PLAN.DWG PLOTTED BY: DARIN GALLOWAY

CLEARING PLAN NOTES

1. ARRAY NOT SHOWN FOR CLARITY.
2. LIMIT OF DISTURBANCE (ALT 2) = ±146.33 ACRES
3. LIMIT OF CLEARING (SITING COUNCIL 10/26/2018) = ±173.28 ACRES
4. COMPLETE TREE CLEARING = ±59.70 ACRES
5. TREE CLEARING, NO GRUBBING = ±14.8 ACRES
6. SELECTIVE TREE CLEARING = ±9.5 ACRES
7. TREE CLEARING AREA REMAINING = 0 ACRES
8. AREA TO BE GRUBBED (AREA INSIDE SECURITY FENCE) = ±110.0 ACRES

LEGEND

- AC — (N) UG AC WIRE
- OH — OVERHEAD POWER
- OVERHEAD POWER POLE
- PROPOSED SITE ACCESS ROAD
- WETLAND W/BUFFER
- SITE FENCE LINE
- LOD — SITE LIMIT OF DISTURBANCE – ALT 1
- LOD — SITE LIMIT OF DISTURBANCE – ALT 2
- CLEARING, NO GRUBBING AREA
- NO CLEARING, NO GRUBBING AREA
- CLEARING & GRUBBING AREA
- RIVER OR CREEK
- 100 YEAR FLOOD ZONE
- SITE ENTRANCE ROAD
- TREE CLEARING (GRUBBING)
- TREE CLEARING (NO GRUBBING)
- TREE CLEARING (SELECTIVE)
- COMM — OVERHEAD POWER LINE
- 75 — (E) MAJOR CONTOUR
- 76 — (E) MINOR CONTOUR
- 75 — (N) MAJOR CONTOUR
- 76 — (N) MINOR CONTOUR

SIERRA OVERHEAD ANALYTICS

REV	DESCRIPTION	DATE
0	60% FOR CLIENT REVIEW	05/08/2020
1	60% FOR CLIENT REVIEW	06/11/2020
2	90% ISSUED FOR CLIENT REVIEW	06/30/2020
3	IFC (DRAFT FOR REVIEW)	07/02/2020
4	SITING COUNCIL INTERROGATORIES 1	07/22/2020
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

CONFIDENTIAL:
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CS Energy
Building a Cleaner Future

PROJECT NAME:
STONINGTON SOLAR PROJECT

PROJECT ADDRESS:
ELLA WHEELER RD.
NORTH STONINGTON, CT 06359
41° 25' 9.71"N, 71° 50' 4.83"W

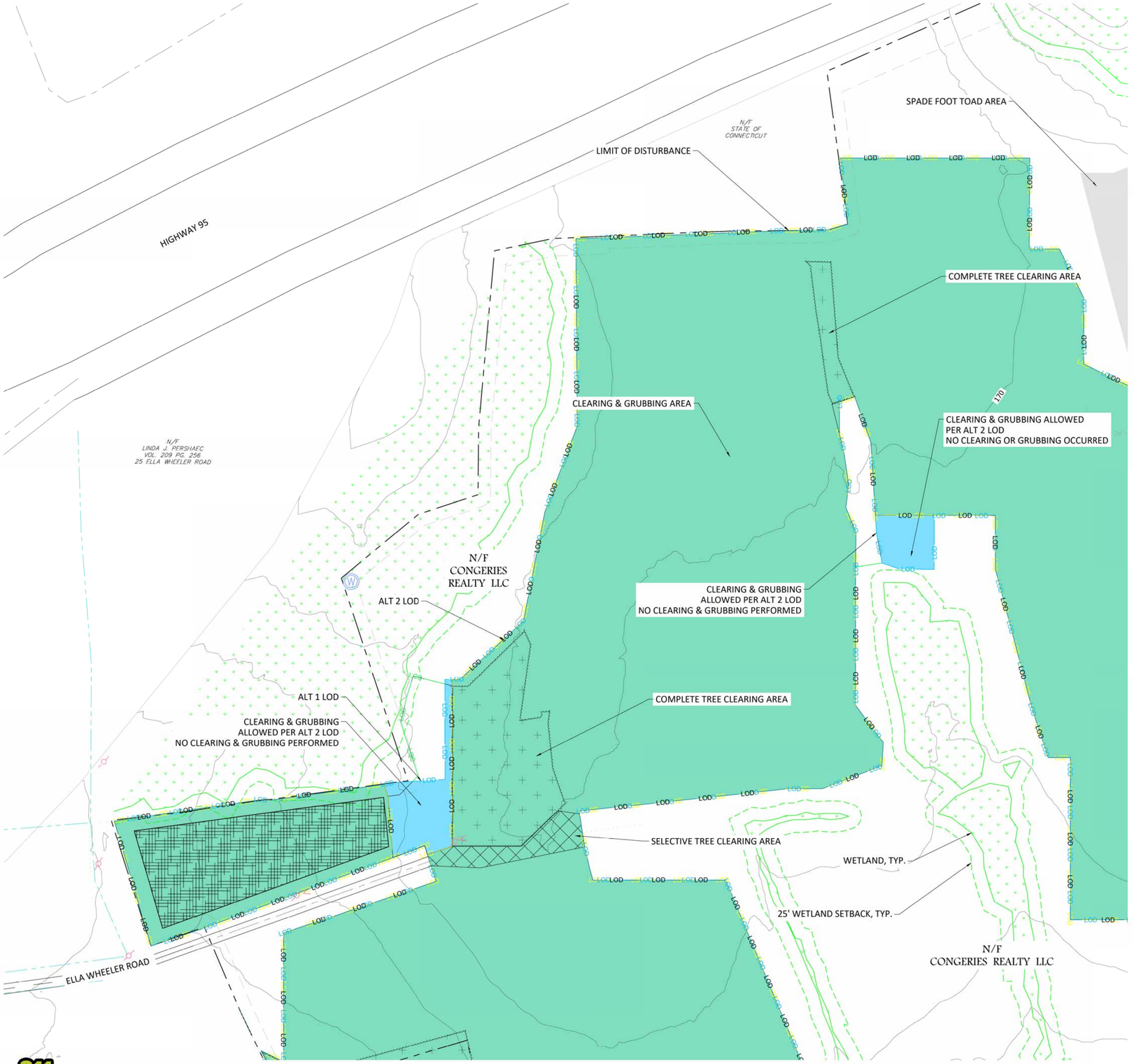
SEAL: STATE OF CONNECTICUT · DARIN RAY GALLOWAY · No. 34152 · LICENSED PROFESSIONAL ENGINEER

DATE:	22-JUL-20
PROJECT #:	20200309_CT
DRAWN BY:	MMM
CHECKED BY:	DRG

TITLE: CLEARING PLAN SITE OVERVIEW

SHEET: CL-200

PLOT DATE: Wednesday, July 29, 2020



1 CL-201 CLEARING PLAN
Scale: 1" = 100'

N 0 100 200 Feet

Know what's below. Call before you dig. 811

KEY MAP (1"=2000')

LEGEND

AC	(N) UG AC WIRE
OH	OVERHEAD POWER
	OVERHEAD POWER POLE
	PROPOSED SITE ACCESS ROAD
	WETLAND W/BUFFER
	SITE FENCE LINE
LOD	SITE LIMIT OF DISTURBANCE – ALT 1
LOD	SITE LIMIT OF DISTURBANCE – ALT 2
	CLEARING, NO GRUBBING AREA
	NO CLEARING, NO GRUBBING AREA
	CLEARING & GRUBBING AREA
	RIVER OR CREEK
	100 YEAR FLOOD ZONE
	SITE ENTRANCE ROAD
	TREE CLEARING (GRUBBING)
	TREE CLEARING (NO GRUBBING)
	TREE CLEARING (SELECTIVE)
COMM	OVERHEAD POWER LINE
75	(E) MAJOR CONTOUR
76	(E) MINOR CONTOUR
75	(N) MAJOR CONTOUR
76	(N) MINOR CONTOUR

soa
SIERRA OVERHEAD ANALYTICS

REV	DESCRIPTION	DATE
0	60% FOR CLIENT REVIEW	05/08/2020
1	60% FOR CLIENT REVIEW	06/11/2020
2	90% ISSUED FOR CLIENT REVIEW	06/30/2020
3	IFC (DRAFT FOR REVIEW)	07/02/2020
4	SITING COUNCIL INTERROGATORIES 1	07/22/2020
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

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CS Energy
Building a Cleaner Future

PROJECT NAME:
STONINGTON SOLAR PROJECT

PROJECT ADDRESS:
ELLA WHEELER RD.
NORTH STONINGTON, CT 06359
41° 25' 9.71"N, 71° 50' 4.83"W

SEAL:
STATE OF CONNECTICUT
DARIN RAY GALLOWAY
No. 34152
LICENSED PROFESSIONAL ENGINEER

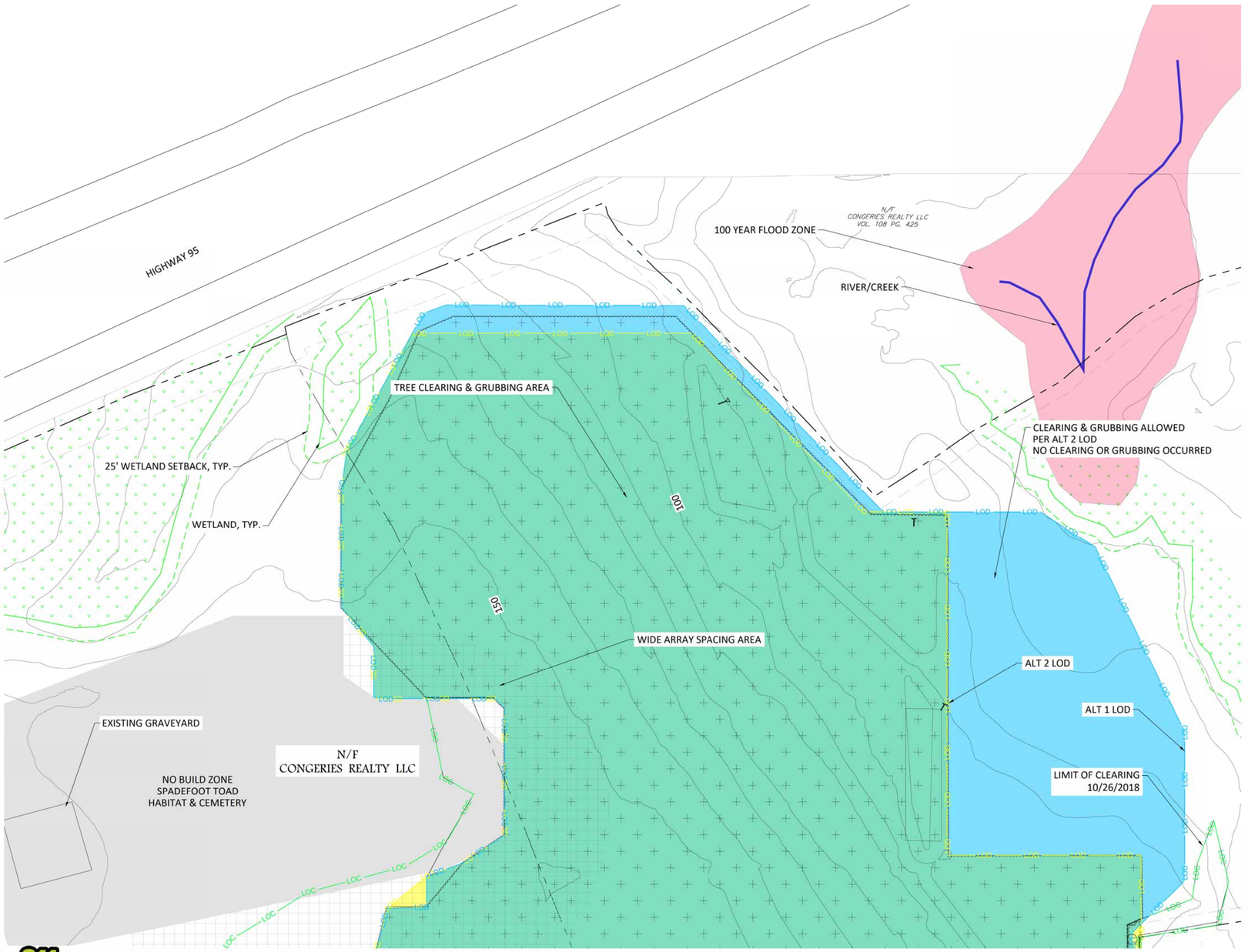
DATE:	22-JUL-20
PROJECT #:	20200309_CT
DRAWN BY:	MMM
CHECKED BY:	DRG

TITLE:
CLEARING PLAN

SHEET:
CL–201

PLOT DATE: Thursday, July 23, 2020

LOCATION: E:\DROPBOX (SOA)\ENGINEERING\CS ENERGY\2020-03-09_STONINGTON\CAD\CLEARING PLAN.DWG PLOTTED BY: DARIN GALLOWAY

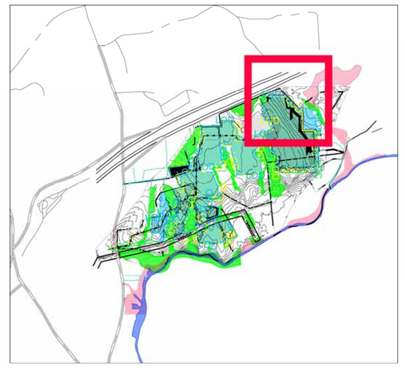


1 CL-202 CLEARING PLAN

Scale: 1" = 100'

N 0 100 200 Feet

KEY MAP (1"=2000')



LEGEND

AC	(N) UG AC WIRE
OH	OVERHEAD POWER
	OVERHEAD POWER POLE
	PROPOSED SITE ACCESS ROAD
	WETLAND W/BUFFER
	SITE FENCE LINE
LOD	SITE LIMIT OF DISTURBANCE – ALT 1
LOD	SITE LIMIT OF DISTURBANCE – ALT 2
	CLEARING, NO GRUBBING AREA
	NO CLEARING, NO GRUBBING AREA
	CLEARING & GRUBBING AREA
	RIVER OR CREEK
	100 YEAR FLOOD ZONE
	SITE ENTRANCE ROAD
	TREE CLEARING (GRUBBING)
	TREE CLEARING (NO GRUBBING)
	TREE CLEARING (SELECTIVE)
COMM	OVERHEAD POWER LINE
75	(E) MAJOR CONTOUR
76	(E) MINOR CONTOUR
75	(N) MAJOR CONTOUR
76	(N) MINOR CONTOUR

SIERRA OVERHEAD ANALYTICS

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CS Energy
Building a Cleaner Future

PROJECT NAME:
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PROJECT ADDRESS:
ELLA WHEELER RD.
NORTH STONINGTON, CT 06359
41° 25' 9.71"N, 71° 50' 4.83"W

SEAL: STATE OF CONNECTICUT · DARIN RAY GALLOWAY · No. 34152 · LICENSED PROFESSIONAL ENGINEER

DATE:	22-JUL-20
PROJECT #:	20200309_CT
DRAWN BY:	MMM
CHECKED BY:	DRG

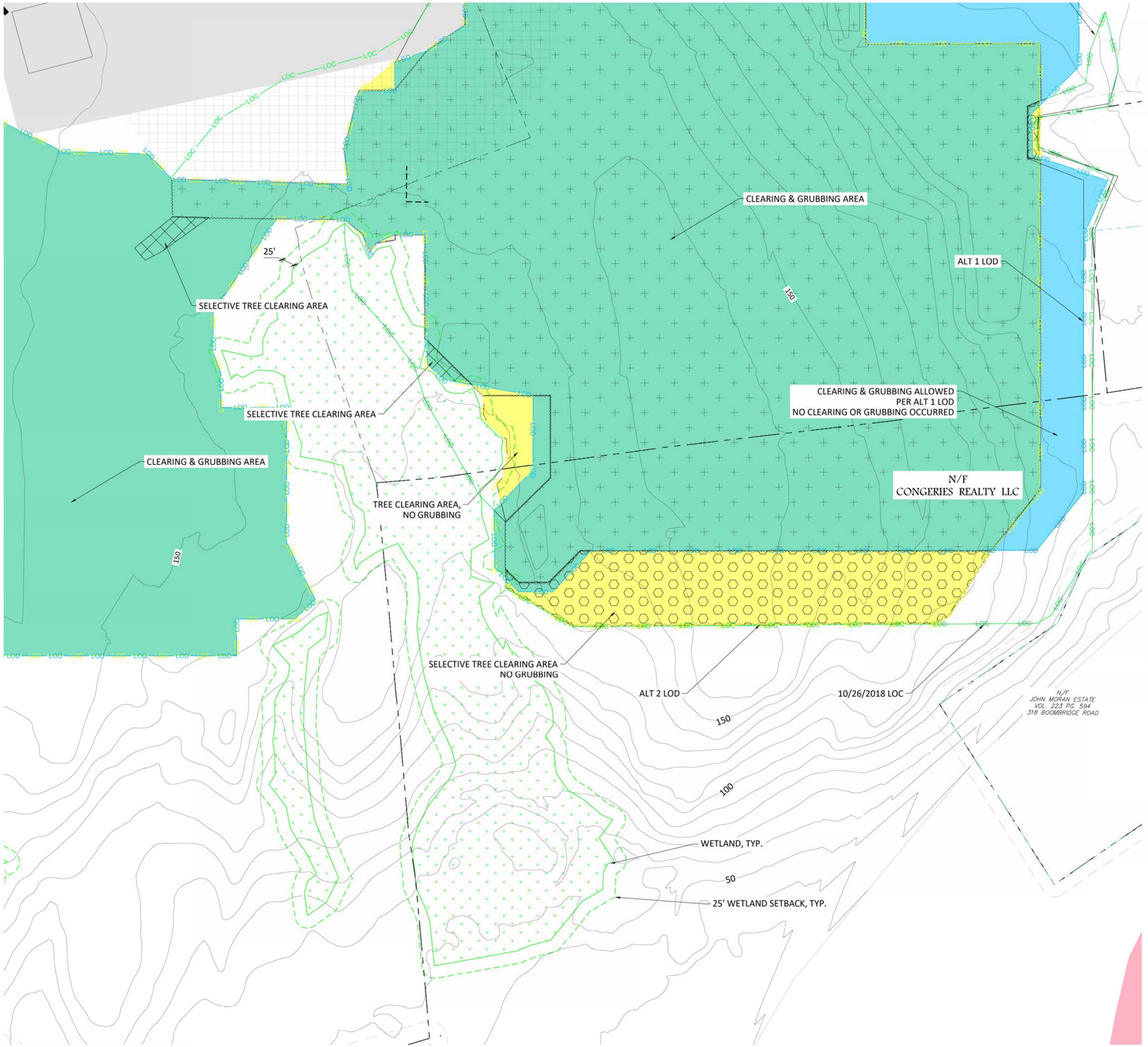
TITLE: CLEARING PLAN

SHEET: CL–202

811 Know what's below. Call before you dig.

LOCATION: E:\DROPBOX (SOA)\ENGINEERING\CS ENERGY\2020-03-09_STONINGTON\CAD\CLEARING PLAN.DWG PLOTTED BY: DARIN GALLOWAY

PLOT DATE: Thursday, July 23, 2020



KEY MAP (1"=2000')

LEGEND

- AC — (N) UG AC WIRE
- OH — OVERHEAD POWER
- OVERHEAD POWER POLE
- PROPOSED SITE ACCESS ROAD
- WETLAND W/BUFFER
- SITE FENCE LINE
- LOD — SITE LIMIT OF DISTURBANCE – ALT 1
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- CLEARING, NO GRUBBING AREA
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SEAL: STATE OF CONNECTICUT · DARIN RAY GALLOWAY · No. 34152 · LICENSED PROFESSIONAL ENGINEER

DATE:	22-JUL-20
PROJECT #:	20200309_CT
DRAWN BY:	MMM
CHECKED BY:	DRG

TITLE: CLEARING PLAN

SHEET: CL–203

1 CL-203 CLEARING PLAN
Scale: 1" = 100'

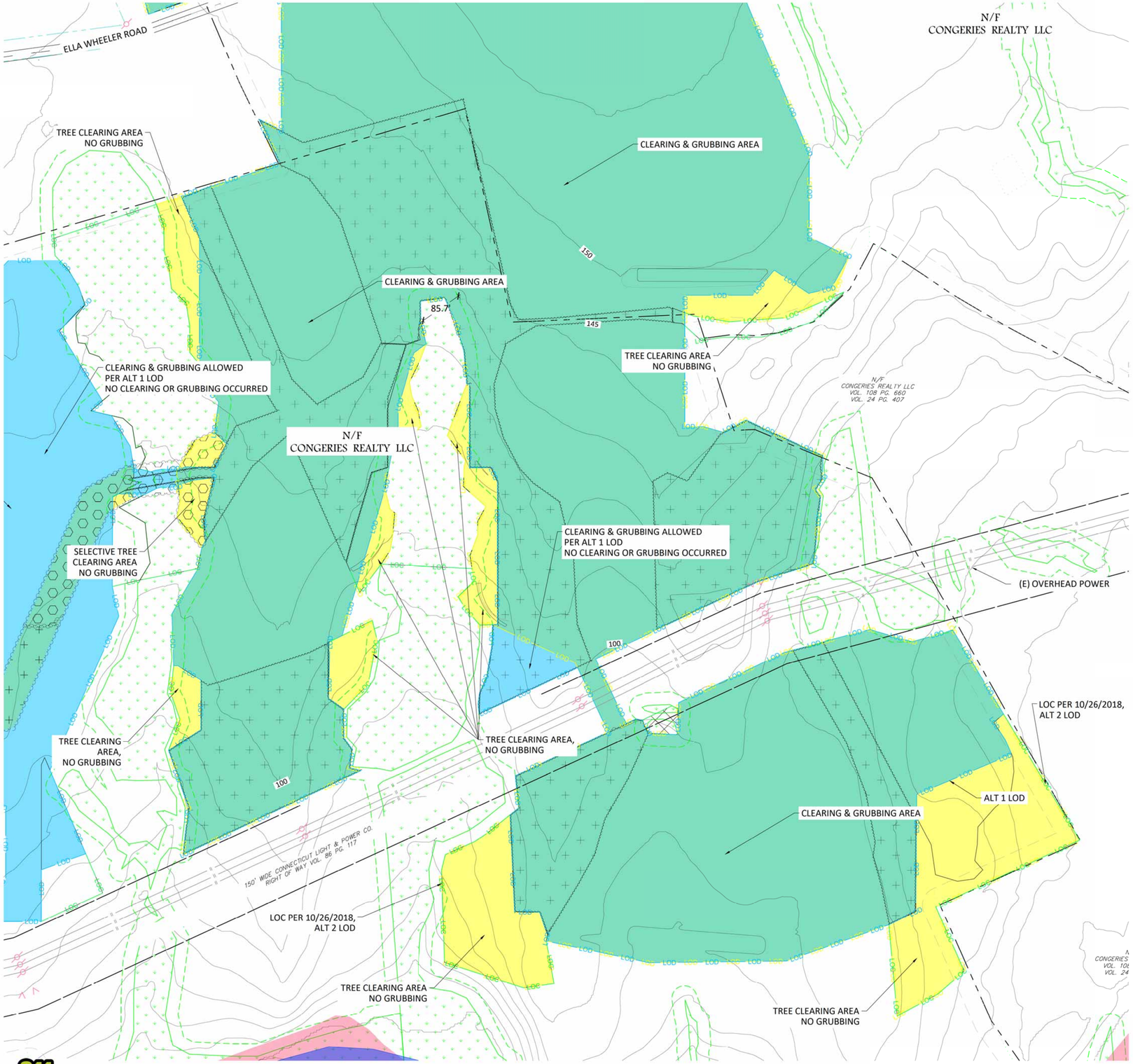
N

0 100 200 Feet

811 Know what's below. Call before you dig.

PLOT DATE: Thursday, July 23, 2020

LOCATION: E:\DROPBOX (SOA)\ENGINEERING\CS ENERGY\2020-03-09_STONINGTON\CAD\CLEARING PLAN.DWG PLOTTED BY: DARIN GALLOWAY



1 CL-204 CLEARING PLAN
Scale: 1" = 100'

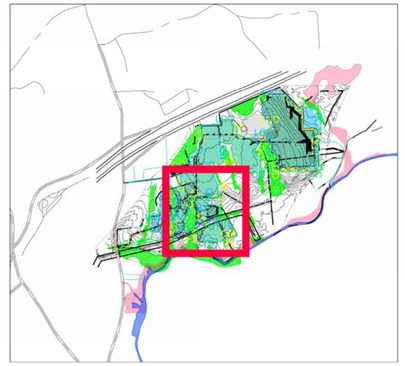
N 0 100 200 Feet

Know what's below. Call before you dig.

LOCATION: E:\DROPBOX (SOA)\ENGINEERING\CS ENERGY\2020-03-09_STONINGTON\CAD\CLEARING PLAN.DWG PLOTTED BY: DARIN GALLOWAY

PLOT DATE: Thursday, July 23, 2020

MAP LEGEND (1"=2000')



LEGEND

- AC — (N) UG AC WIRE
- OH — OVERHEAD POWER
- OVERHEAD POWER POLE
- PROPOSED SITE ACCESS ROAD
- WETLAND W/BUFFER
- SITE FENCE LINE
- LOD — SITE LIMIT OF DISTURBANCE – ALT 1
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- TREE CLEARING (GRUBBING)
- TREE CLEARING (NO GRUBBING)
- TREE CLEARING (SELECTIVE)
- COMM — OVERHEAD POWER LINE
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SIERRA OVERHEAD ANALYTICS

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NORTH STONINGTON, CT 06359
41° 25' 9.71"N, 71° 50' 4.83"W

SEAL: STATE OF CONNECTICUT — DARIN RAY GALLOWAY — No. 34152 — LICENSED PROFESSIONAL ENGINEER

DATE: 22-JUL-20
PROJECT #: 20200309_CT
DRAWN BY: MMM
CHECKED BY: DRG

TITLE: CLEARING PLAN

SHEET: CL–204

EXHIBIT D

SLOPE MATTING

Proud Member and Participant of:
www.eastcoasterosion.com
443 Bricker Road Bernville, PA 19506
1.800.582.4005 +1.610.488.8496 Fax +1.610.488.8494

Material and Performance Specification

ECS-2® Double Net Straw Rolled Erosion Control Product

Description:

The ECS-2® is made with uniformly distributed 100% agricultural straw and two polypropylene nets securely sewn together with degradable thread. The tightly compressed blankets are wrapped and include a product label, code and installation guide. The blankets are palletized for easy transportation.
The ECS-2® has functional longevity of approximately 12 months, but will vary depending on soil and climatic conditions, and is suitable for slopes 2:1 or less and low to medium flow channels. The ECS-2® meets Type 2.D specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.17.

Matrix:	1	2
	100% Straw	

Netting:	Type	Net Color
Top:	Lightweight Photodegradable Polypropylene	Green
Middle:	None	
Bottom:	Lightweight Photodegradable Polypropylene	

Net Opening:	Top	Middle	Bottom
	0.5" x 0.5"		0.5" x 0.5"

Thread:	Type	Color
	Degradable Thread	White

Roll Sizes:	Standard	"A" Size	Mega
Width:	8 ft 2.4 m	4 ft 1.2 m	16 ft 4.9 m
Length:	112.5 ft 34.3 m	225 ft 68.6 m	112.5 ft 34.3 m
Weight*:	53 lbs 24.0 kg	53 lbs 24.0 kg	106 lbs 48.1 kg
Area:	100 yd^2 83.6 m^2	100 yd^2 83.6 m^2	200 yd^2 167.2 m^2
#/Pallet:	25	9	25

*Weight at time of manufacturing.

Index Value Properties*:

Property	Test Method	Typical	
Mass/Unit Area	ASTM D6475	8.50 oz/yd^2	288.2 g/m2
Thickness	ASTM D6525	0.32 in	8.13 mm
Tensile Strength-MD	ASTM D6818	150 lb/ft	2.19 kN/m
Elongation-MD	ASTM D6818	28 %	
Tensile Strength-TD	ASTM D6818	80 lb/ft	1.17 kN/m
Elongation-TD	ASTM D6818	29.4 %	
Light Penetration	ASTM D6567	19 %	
Density / Specific Gravity	ASTM D792	N/A g/cm^3	
Water Absorption	ASTM D1117	390 %	

*May differ depending upon raw material variations

Bench-Scale Testing* (NTPEP***):

Test Method	Parameters	Results
ECTC Method 2 Rainfall	50mm (2in) / hr-30 min	SLR**=5.84
	100mm (4in) / hr-30 min	SLR**=6.87
	150mm (6in) / hr-30 min	SLR**=8.09
ECTC Method 3 Shear Resistance	Shear at .50 in soil loss	1.61 lb/ft^2
ECTC Method 4 Germination	Top soil; Fescue; 21 day incubation	455 %

*Bench scale tests should not be used for design purposes.

**Soil Loss Ratio=Soil Loss Bare Soil/Soil Loss with RECP=1/C-Factor

***The preceding test data excerpts were reproduced with the permission of AASHTO, however, this does not constitute endorsement or approval of the product, material or device by AASHTO

Slope Performance Design Values*:

Property	Test Method		Value
C-Factors	ASTM D6459		0.01
Slope Length (L)	**≤ 3:1**	**3:1-2:1**	**≥ 2:1**
< 50 ft (15 m)	0.014	0.077	N/A
50 ft – 100 ft	0.048	0.084	N/A
>100 ft (30 m)	0.086	0.125	N/A

*Large-Scale Results obtained by 3rd Party GAI Accredited Independent Laboratory

Channel Performance Design Values*:

Property	Test Method	Value			
Unvegetated Shear Stress	ASTM D 6460	2.05	lbs/ft^2	98.15	Pa
Unvegetated Velocity	ASTM D 6460	7.5	ft/s	2.29	m/s
Vegetated Shear Stress	NA	N/A	lbs/ft^2	N/A	Pa
Vegetated Velocity	NA	N/A	ft/s	N/A	m/s
Manning's N (Value Represents a Range)			0.029		

*Large-Scale Results obtained by 3rd Party GAI Accredited Independent Laboratory

The values presented are for guidance purposes and do not constitute the practice of engineering. East Coast Erosion Blankets LLC (ECEB) ascertains that at the time of manufacture, all information presented herein is accurate and reliable and falls within the ECEB manufacturing product specification variances. If the product does not meet the stated values and ECEB is notified in writing prior to installation, the product will be replaced at no cost to the purchaser. ECEB will not be held liable for any type of damage or losses, directly, or indirectly for failure of this product. Current revision supersedes all previous versions for this product.

Revised 1/11/2016