

PETITION NO. 1443 - SR North Stonington, LLC petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 9.9-megawatt AC solar photovoltaic electric generating facility on five parcels located north and south of Providence New London Turnpike (State Route 184), west of Boombridge Road and north of Interstate 95 in North Stonington, Connecticut, and associated electrical interconnection.	}	Connecticut
	}	Siting
	}	Council
		August 20, 2021

DRAFT Findings of Fact

Introduction

1. On February 25, 2021, SR North Stonington, LLC (SRNS or Petitioner) submitted a petition (Petition) to the Connecticut Siting Council (Council), pursuant to Connecticut General Statutes (CGS) §16-50k and §4-176, for a declaratory ruling for the construction, maintenance, and operation of a 9.9-megawatt AC solar photovoltaic electric generating facility located on five parcels located north and south of Providence New London Turnpike (State Route 184), west of Boombridge Road and north of Interstate 95 (I-95) in North Stonington, Connecticut, and associated electrical interconnection. (SRNS 1, pp. 1-4)
2. The parties to the proceeding are SRNS and the Town of North Stonington (Town). (Transcript 1 – June 8, 2021, 2:00 p.m. [Tr. 1], p. 6)
3. SRNS is a Delaware limited liability company with an office in Nashville, Tennessee. SRNS is a wholly owned subsidiary of Silicon Ranch Corporation (SRC). SRC is a developer and operator of solar energy facilities in the United States. (SRNS 1, p. 2)
4. SRC owns the proposed site parcels. SRNS would construct and own the proposed facility. (SRNS 1, pp. 2, 5)
5. The proposed project would be a “grid-side distributed resources” facility under CGS § 16-1(a)(37). (CGS § 16-1(a)(37); SRNS 1, p. 34)
6. The proposed project would generate renewable electrical energy from solar power. Solar power is considered a Class I renewable energy source. (CGS §16-1(a)(20); SRNS 1, p. 13)
7. The State legislature established a renewable energy policy under CGS §16a-35k that encourages the development of renewable energy facilities to the maximum extent possible. (CGS §16a-35k)

Procedural Matters

8. Upon receipt of the petition, the Council sent a letter to the Town on March 3, 2021, as notification that the petition was received and is being processed, in accordance with CGS §16-50k(a), and invited the Town to contact the Council with any questions or comments by March 27, 2021. (Record)
9. On March 24, 2021, the Town submitted correspondence requesting a public hearing on the project and a 30-day extension of the public comment period. By letter dated March 25, 2021, the Council granted the Town’s request for a 30-day extension of the public comment period to April 26, 2021.(Town 1; Record)

10. On April 8, 2021, during a public meeting of the Council, the Council granted the Town's request for a public hearing. (Record)
11. On April 22, 2021, during a public meeting, the Council approved a public hearing schedule. This further extended the public comment period to 30 days following the close of the evidentiary record. The evidentiary record closed on July 8, 2021. The public comment record closed on August 7, 2021. (Record)
12. On March 10, 2020, Governor Lamont issued a Declaration of Public Health and Civil Preparedness Emergencies, proclaiming a state of emergency throughout the state as a result of the COVID-19 pandemic. (Council Administrative Notice Item No. 76)
13. On March 12, 2020, Governor Lamont issued Executive Order No. (EO) 7 ordering a prohibition of large gatherings, among other orders and directives. (Governor Lamont's EO 7; Council Administrative Notice Item No. 76)
14. On March 14, 2020 and as subsequently extended, Governor Lamont issued EO 7B ordering suspension of in-person open meeting requirements of all public agencies under CGS §1-225. The Freedom of Information Act defines "meeting" in relevant part as "any hearing or other proceeding of a public agency." (Council Administrative Notice Item No. 76, CGS §1-200, et seq. (2019))
15. EO 7B allows public agencies to hold remote meetings provided that:
 - a) The public has the ability to view or listen to each meeting or proceeding in real-time, by telephone, video, or other technology;
 - b) Any such meeting or proceeding is recorded or transcribed and such recording or transcript shall be posted on the agency's website within seven (7) days of the meeting or proceeding;
 - c) The required notice and agenda for each meeting or proceeding is posted on the agency's website and shall include information on how the meeting will be conducted and how the public can access it;
 - d) Any materials relevant to matters on the agenda shall be submitted to the agency and posted on the agency's website for public inspection prior to, during and after the meeting; and
 - e) All speakers taking part in any such meeting shall clearly state their name and title before speaking on each occasion they speak.(Council Administrative Notice Item No. 76)
16. On March 25, 2020 and as subsequently extended, Governor Lamont issued EO 7M allowing for an extension of all statutory and regulatory deadlines of administrative agencies for a period of no longer than 90 days (Council Administrative Notice Item No. 76)
17. Pursuant to Governor Lamont's EO 7B and CGS §16-50m, the Council published legal notice of the date and time of the remote public hearing via Zoom conferencing in The Day on April 28, 2021. The hearing was scheduled for June 8, 2021. (Council's Hearing Notice dated April 23, 2021; Record)
18. Pursuant to Governor Lamont's EO 7B and CGS §16-50m, on April 23, 2021, the Council sent a letter to the Town to provide notification of the scheduled remote public hearing via Zoom conferencing and to invite the municipalities to participate. (Record)
19. In compliance with Governor Lamont's EO 7 prohibition of large gatherings, the Council's Hearing Notice did not refer to a public field review of the proposed site. (Council's Hearing Notice dated April 23, 2021)

20. Field reviews are not an integral part of the public hearing process. The purpose of a site visit is an investigative tool to acquaint members of a reviewing commission with the subject property. (Council Administrative Notice Item Nos. 77 and 78)
21. On May 10, 2021, in lieu of an in-person field review of the proposed site, the Council requested the Petitioner submit photographic documentation of site-specific features into the record intended to serve as a “virtual” field review of the proposed site. On June 1, 2021, SRNS submitted such information in response to the Council’s interrogatories. (Record; SRNS 2, response 43)
22. On May 5, 2021, the Council held a pre-remote hearing teleconference on procedural matters for parties and intervenors to discuss the requirements for pre-filed testimony, exhibit lists, administrative notice lists, expected witness lists, and filing of pre-hearing interrogatories. Procedures for the remote public hearing via Zoom conferencing were also discussed. (Council Pre-Remote Hearing Conference Memorandum, dated April 29, 2021)
23. Pursuant to Regulations of Connecticut State Agencies (RCSA) § 16-50j-21, on May 24, 2021, SRNS installed a sign measuring six feet by four feet that included information about the proposed facility, the public hearing date and contact information for the Council. The sign was posted near the proposed site access road entrance to the southern solar facility area on the south side of Providence New London Turnpike (Route 184). (SRNS 3; Council Pre-Remote Hearing Conference Memorandum, dated April 29, 2021)
24. Pursuant to CGS §16-50m, the Council, after giving due notice thereof, held a remote public hearing on June 8, 2021, beginning with the evidentiary session at 2:00 p.m. and continuing with the public comment session at 6:30 p.m. via Zoom conferencing. The Council provided access information for video/computer access or audio only telephone access. (Council's Hearing Notice dated April 23, 2021; Tr. 1, p. 1; Transcript 2 – June 8, 2021, 6:30 p.m. [Tr. 2], p. 133)
25. The Council continued the evidentiary hearing session via Zoom conferencing on July 8, 2021. (Council Evidentiary Hearing Continuation Memorandum dated June 9, 2021; Transcript 3 – July 8, 2021, 2:00 p.m. [Tr. 3], p. 1)
26. In compliance with Governor Lamont’s EO 7B:
 - a) The public had the ability to view and listen to the remote public hearings in real-time, by computer, smartphone, tablet or telephone;
 - b) The remote public hearings were recorded and transcribed and such recordings and transcripts were posted on the Council’s website on June 9, 2021, June 14, 2021, July 9, 2021, and July 22, 2021, respectively;
 - c) The Hearing Notice, Hearing Program, Citizens Guide for Siting Council Procedures and Instructions for Public Access to the Remote Hearing were posted on the agency’s website;
 - d) The record of the proceeding is available on the Council’s website for public inspection prior to, during and after the remote public hearings; and
 - e) The Council, parties and intervenors and members of the public who spoke during the public comment session provided their information for identification purposes during the remote public hearings.(Hearing Notice dated April 23, 2021; Tr. 1; Tr. 2; Tr. 3; Record)

Municipal Consultation

27. In 2020, SRNS corresponded with Juliet Hodge, Town Planning, Development and Zoning Official and First Selectman Michael Uργο on several occasions. SRNS also offered to meet with Town officials to discuss the project but was unable to do so. (SRNS 1, p. 14)
28. Also in 2020, SRNS sent postcard mailers to abutting property owners. The postcard mailers included details of the proposed project (hereinafter referred to as the Original Project) and invited the neighbors to contact SRNS with any questions or comments. (SRNS 1, p. 14)
29. SRNS was contacted by two neighbors in response to the postcard mailers, but neither provided any feedback. (SRNS 2, response 1)
30. Pursuant to RCSA §16-50j-40 on or about February 23, 2021, SRNS notified the abutting property owners, officials from the Town and state officials and agencies of the proposed project. (SRNS 1, p. 14 and Attachments G and H)
31. Three abutters contacted SRNS after the February 23, 2021 notice of the Petition. Two of the abutters discussed with SRNS the potential for stormwater runoff to impact their properties. The third abutter requested more information from SRNS to further review the proposed project. (SRNS 2, response 1)
32. By letter dated March 25, 2021, the Town Planning and Zoning (P&Z) Commission expressed concerns including, but not limited to, noise impacts, visual impacts, wetland/watercourse buffer adequacy, and historic value of existing stone walls. The Town P&Z Commission expressed a preference for relocating some, if not all, solar panels from north of Route 184 to the gravel pit area to the south of Route 184. (Town 2)
33. By letter dated March 26, 2021, the Town's Board of Selectman (Board of Selectman) also expressed a preference for installing the majority of the solar panels on the southern portion of the project area because it features a former gravel pit, and utilizing such gravel pit area would minimize impacts on other more developed areas. The Board of Selectman is also concerned about the historic value of the northern portion of the site and maintaining a tree buffer around residences to the north. (Town 3)
34. By letter dated April 26, 2021, the Town Land Use Department stated that the project selected under DEEP's 2016 RFP (hereinafter, referred to as the RFP Project) was intended for an approximately 97 acre site containing the gravel pit (Southern Parcels), not the two northern parcels (Northern Parcels). (Town 4)
35. As a result of comments from abutters and the Town, SRNS revised its Original Project (hereinafter referred to as the Revised Project) including, but not limited to, the following changes:
 - a) Reduction in the limits of disturbance and tree clearing areas;
 - b) Reduction in site grading;
 - c) Increased setbacks from wetlands and watercourses; and
 - d) Reduction in the quantity of solar panels for the arrays located north of Route 184.(SNRS 2, response 2)

State Agency Comments

36. Pursuant to RCSA §16-50j-40, on March 1, 2021 and April 23, 2021, the following state agencies were requested to submit written comments regarding the proposed facility: DEEP; Department of Agriculture (DOAg); Department of Public Health (DPH); Council on Environmental Quality (CEQ); Public Utilities Regulatory Authority (PURA); Office of Policy and Management (OPM); Department of Economic and Community Development (DECD); Department of Emergency Services and Public Protection (DESPP); Department of Consumer Protection (DCP); Department of Labor (DOL); Department of Administrative Services (DAS); Department of Transportation (DOT); the Connecticut Airport Authority (CAA); and the State Historic Preservation Office (SHPO). (Council State Agencies Memorandum, dated March 1, 2021; Council Hearing Documents, dated April 23, 2021)
37. The Council received comments from DOT¹, CEQ² and DOAg³ on March 24, 2021, March 25, 2021 and April 6, 2021, respectively. These comments are addressed in the following sections of the document: Project Description, Public Safety, Project Construction, and Environmental Effects. (Record)
38. No other state agencies responded with comment on the petition. (Record)
39. While the Council is obligated to consult with and solicit comments from state agencies by statute, the Council is not required to abide by the comments from state agencies. (Council Administrative Notice Item No. 78, *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007))

State of Connecticut Planning and Energy Policy

40. Section 51 of Public Act (PA) 11-80 requires that DEEP prepare a Comprehensive Energy Strategy (CES) every three years that reflects the legislative findings and policy stated in CGS §16a-35k. As such, this statute consolidated Connecticut's energy planning for the first time. The final version of the state's inaugural CES was published on February 19, 2013 (2013 CES). It advocated smaller, more diversified generation projects using renewable fuels, as well as smaller, more innovative transmission projects emphasizing reliability. (2013 CES; CGS §16a-3d)
41. On February 8, 2018, DEEP issued the 2018 Comprehensive Energy Strategy (2018 CES). Guided by the long-term vision of transitioning to a zero-carbon economy, the 2018 CES highlights eight key strategies to guide administrative and legislative action over the next several years. Specifically, strategy No. 3 is "Grow and sustain renewable and zero-carbon generation in the state and region." (Council Administrative Notice Item No. 54 – 2018 CES, p. 14)
42. CGS §16-245a establishes Connecticut's *Renewable Portfolio Standards (RPS)*. Up until recently, RPS required that 20 percent of Connecticut's electricity usage had to be obtained from Class I renewable resources by 2020. Under Public Act 18-50, RPS was updated to require 21 percent of Connecticut's electricity usage be obtained from Class I renewable resources by 2020 and increasing each year to reach 40 percent by 2030. (CGS §16-245a; Public Act 18-50; Council Administrative Notice Item No. 54 – 2018 CES, pp. 110-112)

¹https://portal.ct.gov/-/media/CSC/3_Petitions-medialibrary/Petitions_MediaLibrary/MediaPetitionNos1441-1450/PE1443/State_Municipal_Official/PE1443_STATEMEMO-CommentsRecd-DOT.pdf

²https://portal.ct.gov/-/media/CSC/3_Petitions-medialibrary/Petitions_MediaLibrary/MediaPetitionNos1441-1450/PE1443/State_Municipal_Official/PE1443_STATEMEMO-CommentsRecd-CEQ.pdf

³https://portal.ct.gov/-/media/CSC/3_Petitions-medialibrary/Petitions_MediaLibrary/MediaPetitionNos1441-1450/PE1443/State_Municipal_Official/PE1443_STATEMEMO-CommentsRecd-DOAG.pdf

43. The 2018 CES notes that, “Most recent analyses indicate that there should be adequate Class I resources to meet Connecticut’s Class I Renewable Portfolio Standards (RPS) goals in 2020*.”
*This was based on the “20 percent Class I by 2020” requirement that was in place at the time the 2018 CES was prepared. (Council Administrative Notice Item No. 54 – 2018 CES, p. 112)
44. The Global Warming Solutions Act (GWSA) sets a goal of reducing greenhouse gas (GHG) emissions by 80 percent by 2050. (CGS §22a-200)
45. The proposed facility will contribute to fulfilling the State’s RPS and GWSA as a zero emission Class I renewable energy source. (Council Administrative Notice Item No. 54 – 2018 CES)
46. Section 7 of GWSA required the Governor’s Steering Committee on Climate Change to establish an Adaptation Subcommittee to evaluate the projected impacts of climate change on Connecticut agriculture, infrastructure, natural resources and public health and develop strategies to mitigate these impacts. (Council Administrative Notice Item No. 68 – Climate Change Preparedness Plan)
47. Governor Lamont’s 2019 Executive Order No. 3 declares the state’s goal to reach 100 percent carbon free electricity by 2040. (Governor Lamont’s Executive Order No. 3, September 3, 2019)

Competitive Energy Procurement

48. On March 9, 2016, DEEP issued notice for a Request for Proposals (RFP) for Class I renewable energy sources and Class III sources with a nameplate capacity rating of more than 2 MW and less than 20 MW (Small Scale RFP). Project selection occurred on November 28, 2016. On June 27, 2017, DEEP issued its final determination in the RFP and selected 25 out of 107 proposed projects to enter into long-term power purchase agreements (PPAs) with the electric distribution companies (EDCs) for a combination of energy and environmental attributes. The RFP Project was one of the 25 projects selected. (Council Administrative Notice Item No. 47 – Petition No. 1310A Finding of Fact #82; SRNS 1, p. 2)
49. When the RFP Project was selected in the DEEP Small Scale RFP in 2016, it was listed as, “North Stonington Solar Plant + Park Project, NS Solar Plant I Facility” to be developed by Connecticut Energy Parks, LLC (CEP). * Plans to include energy storage, a microgrid and a park were included in the project bid and discussed with the Town. SRNS has no affiliation with CEP. (Council Administrative Notice Item No. 47 – Petition No. 1310A Finding of Fact #82; SRNS 1, p. 2; SRNS 2, response 3(c); SRNS 5, response 8; Town 4; Tr. 3, pp. 101-103)

*Public Act 15-107, DEEP Small Scale RFP, North Stonington Solar Plant + Park Project, NS Solar Plant I Facility Bid, available at:
[http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/8525797c00471adb85257fa8008130c3/\\$FILE/North%20Stonington%20Solar%20Plant%20+%20Park%20Bid%20REDACT.pdf](http://www.dpuc.state.ct.us/DEEPEnergy.nsf/c6c6d525f7cdd1168525797d0047c5bf/8525797c00471adb85257fa8008130c3/$FILE/North%20Stonington%20Solar%20Plant%20+%20Park%20Bid%20REDACT.pdf)
50. The RFP Project area consisted of 97 acres located south of Route 184. No solar panels were proposed to be installed to the north of Route 184. (Town 2; Town 3; Town 4; Council Administrative Notice Item No. 47 – Petition No. 1310A Finding of Fact #82)
51. In 2017, SRNS acquired the RFP Project from Renewable Ventures, LLC (RV). (SRNS 1, p.5)

Power Purchase Agreements

52. Under PPAs, SRNS would sell all of the power produced by the project to two Connecticut EDCs – The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource) and The United Illuminating Company (UI) – pursuant to its selection under the DEEP Small-Scale RFP. (SRNS 1, Cover Letter and p. 9)
53. The PPAs take into account a facility size of 9.9 MW AC. While there are mechanisms in the PPAs to allow SRNS to reduce the system size (i.e. capacity) of the project, any reduction in system size would negatively impact the financial viability of the project. To remain viable, the system size would need to remain unchanged at 9.9 MW AC. (SRNS 1, p. 9; Tr. 3, pp. 55-56)
54. On September 7, 2017, PURA issued regulatory approval of the RFP Project PPAs in Docket No. 17-01-11, *PURA Review of Public Act 15-107(b) Small-Scale Energy Resource Agreements*. (SRNS 1, p. 9)
55. On June 13, 2018, PURA approved a request from CEP to amend the existing PPAs to add the Northern Parcels to the site due to environmental constraints on the Southern Parcels, Notice to the Town was not required. (SRNS 2, response 3; SRNS 5, response 8; Tr. 3, pp. 85-86)
56. There are no provisions for extending the PPAs after the 20-year term, and there is no option to renew. (SRNS 1, p. 9; Tr.1, pp. 36-37)
57. A renewable energy certificate (REC) certifies that one megawatt-hour (MWh) of renewable electrical energy has been generated. RECs create a market to separate renewable energy attributes and resource output. Environmental attributes are sold into the REC markets. (Council Administrative Notice Item No. 55 – 2014 DEEP Integrated Resources Plan, Appendix D)
58. The PPAs assign three priority attributes: energy, capacity and RECs. (Tr. 1, 44-45)
59. SRNS would not participate in the Agricultural Virtual Net Metering Program or other virtual net metering programs. (SRNS 1, p. 9)
60. SRNS did not participate in Independent System Operator – New England (ISO-NE) Forward Capacity Auction (FCA) #15. SRNS has no plans to participate in FCAs at this time; notwithstanding, at each annual milestone, it would evaluate the possibility of future participation. (SRNS 2, response 6; Tr. 1, 44-45)

Public Benefit

61. A public benefit exists when a facility is necessary for the reliability of the electric power supply of the state or for the development of a competitive market for electricity. (CGS. §16-50p)
62. The project would be a distributed energy resource facility as defined in CGS §16-1(a)(49). CGS §16a-35k establishes the State's energy policy, including the goal to "develop and utilize renewable energy resources, such as solar and wind energy, to the maximum practicable extent." (CGS §16-1(a)(49); CGS §16a-35k)

63. Public Act (PA) 05-1, An Act Concerning Energy Independence, established a rebuttable presumption that there is a public benefit for electric generating facilities selected by the Department of Public Utility Control (DPUC, now known as PURA) in a Request for Proposals. (PA 05-1; CGS§16-50k)

Public Act 17-218

64. Effective July 1, 2017, PA 17-218 requires, “for a solar photovoltaic facility with a capacity of two or more megawatts, to be located on prime farmland or forestland, excluding any such facility that was selected by DEEP in any solicitation issued prior to July 1, 2017, pursuant to section 16a-3f, 16a-3g or 16a-3j, the DOAg represents, in writing, to the Council that such project will not materially affect the status of such land as prime farmland or DEEP represents, in writing, to the Council that such project will not materially affect the status of such land as core forest.” Because the project was selected by DEEP in a solicitation prior to July 1, 2017, the project is exempt from this provision of PA 17-218. (SRNS 1, Cover Letter; CGS §16-50k)
65. Pursuant to CGS §16-50x, the Council has exclusive jurisdiction over the construction, maintenance and operation of solar photovoltaic electric generating facilities throughout the state. PA 17-218 does not confer the Council’s exclusive jurisdiction upon DOAg or DEEP nor does it permit DOAg or DEEP to impose any enforceable conditions on the construction, maintenance and operation of solar photovoltaic electric generating facilities under the exclusive jurisdiction of the Council. (CGS §16-50k and 16-50x)
66. PA 17-218 also requires that the Council not find a substantial adverse environmental effect in its exercise of jurisdiction over facilities eligible to be approved by declaratory ruling under CGS §16-50k. There are no exemptions from this provision of PA 17-218. (CGS §16-50k)

Site Selection

67. RV, the prior owner of the project selected the RFP Project site based on the following factors:
a) Site suitability such as size, grading and topography;
b) Site availability for lease or purchase;
c) Proximity to electrical grid; and
d) Local land use considerations.
(SRNS 1, p. 3)
68. SRC acquired the RFP Project from RV in 2017. It did not consider alternative locations due to selection of the project in the DEEP Small Scale RFP and completed environmental evaluations. (SRNS 1, pp. 3-6)
69. Due to environmental constraints on the Southern Parcels, SRNS evaluated alternative parcels before acquiring the Northern Parcels to develop the project. The RFP Project site host parcels consisted of 97 acres located south of Route 184. The Original Project and the Revised Project site host parcels consist of 157 acres located both north and south of Route 184. (SRNS 1, p. 5; Tr. 1, pp. 97-98; Town 4)
70. Pursuant to CGS §16-50p(g), the Council has no authority to compel a parcel owner to sell or lease property, or portions thereof, for the purpose of siting a facility. (Council Administrative Notice Item No. 78 - *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007))

Site

71. Pursuant to RCSA §16-50j-2a(29), “Site” means a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and easements on which a facility and associated equipment is located, shall be located or is proposed to be located. (RCSA §16-50j-2a(29))
72. The proposed site is located on five parcels totaling approximately 157 acres. The five* parcels (collectively, the subject property) are listed as follows:
- a) An approximately 63.54-acre parcel located north of I-95 and between Cranberry Bog Road (to the west) and Boombridge Road (to the east);
 - b) An approximately 32.94-acre parcel located north of I-95 and between Cranberry Bog Road (to the west) and Boombridge Road (to the east);
 - c) An approximately 1.33-acre parcel located north of I-95 between Spencer Drive (to the west) and Boombridge Road (to the east);
 - d) An approximately 28.22-acre parcel located south of Route 184 between Stillman Road/Miner Meeting House Road (to the west) and Boombridge Road (to the east); and
 - e) An approximately 31.13-acre parcel located north of Route 184 between Stillman Road/Miner Meeting House Road (to the west) and Boombridge Road (to the east).

*The first four parcels listed are contiguous. The fifth parcel is separate from the other parcels because it is located north of Route 184.

(SRNS 1, p. 4; SRNS 1, Attachment A – Drawing PV-100)

73. The site parcels are owned by SRC and are located within the Town’s R-60 Medium-density Residential District. (SRNS 1, p. 5)
74. Until approximately 2004, the Southern Parcels-were used as agricultural land. No portion of the site is currently in productive agricultural use. In 2004, significant portions of the Southern Parcels were excavated to facilitate a sand and gravel mining operation. The Southern Parcels are traversed by two headwater stream corridors and a drainageway. A small family cemetery is located in the westerly portion of the site. (SRNS 1, pp. 5, 15; SRNS 2, response 9)
75. The remaining areas of the Southern Parcels and the Northern Parcel contain forested uplands and wetland areas. (SRNS 1, p. 15)
76. The surrounding land uses include low density residential, two dog kennels, a dog breeder, Route 184 and I-95. (SRNS 1, pp. 5-6; Tr. 3, pp. 15-16)

Project Description

Solar Array

77. For the Original Project, SRNS proposed 28,890 fixed bifacial solar panels rated at approximately 455 Watts direct current (DC) each. For the Revised Project, SRNS would install 29,675 fixed bifacial solar panels at 475 Watts DC each. (SRNS 1, Attachment A – Drawing PV-100; SRNS 6, Attachment 4, p. 1; Tr. 1, p. 75; Tr. 3, 91)

78. The solar panels would be arranged in a portrait orientation and oriented facing south. The panels would be installed at a 25 degree angle, extending to a height of approximately 11 feet above grade and approximately 2 feet above grade at the bottom edge. (SRNS 1, p. 6; SRNS 6, Attachment 4 – Drawing PV-100)
79. The solar panels for the project would be located within a total of four, separate fenced array areas listed below:

Fenced Array Area	Location	MW AC
Area 1 - Northwest	West side of Northern Parcel	0.93 MW
Area 2 - Northeast	East side of Northern Parcel	0.62 MW
Area 3 - Southwest	West side of Southern Parcels	5.35 MW
Area 4 - Southeast	East side of Southern Parcels	3.00 MW
Total Capacity*		9.90 MW

*Total capacity of 9.90 MW AC remains the same for the Revised Project as the Original Project.

(SRNS 2, response 2; SRNS 6, Late Filed Exhibit c and Attachment 5 – Overall Site Plan)

80. The solar panels would be installed on racking systems supported by ground screws that would be embedded to a maximum of 6 to 7 feet into the ground. Subsurface conditions would determine the final type(s) of supports to be installed. (SRNS 2, responses 40 and 41; Tr. 1, p. 19)
81. Solar array rows (panel edge to panel edge) would be spaced 8.8 feet apart. Once installed, the horizontal width of the panel row would measure 13.2 feet (from bottom edge to top edge at a 25 degree angle). (SRNS 6, Attachment 4 – Drawing PV-100)
82. Wiring from the inverters to the transformers and from the transformers to the switchgear would be run underground in conduits. (SRNS 1, p. 7; SRNS 6, Attachment 4 – Drawing PV-100)
83. Area 1 would contain one equipment pad in the southern portion of this area. Area 2 would contain one equipment pad in the southeastern portion of this area. Area 3 would contain two equipment pads: one in the north-central portion of the area and one in the south-central portion of the area. Area 4 would contain one equipment pad in the northwestern portion of this area. (SRNS 6, Attachment 4 – Drawing PV-100)
84. Each of the four array areas would be enclosed by a 7-foot tall chain link fence with one foot of barbed wire on top. The fence design would comply with the National Electrical Code (NEC). The fence would also have a two-inch gap at the bottom of the fence to ensure safety and compliance with Adaptive Multi-Paddock grazing techniques. (SRNS 1, p. 8; SRNS 6, Attachment 5 – Overall Site Plan)
85. SRNS is willing to consider more aesthetic fence designs that would secure the facility, as well as deter trespassing and dumping that has historically occurred on the Southern Parcels. (SRNS 1, Exhibit P – Archaeological Sensitivity Analysis; SRNS 1, Exhibit R –Phase I; SRNS 2, response 3; Tr. 1, pp. 106-108, 112-113)
86. The Original Project included a total of approximately 15,433 linear feet of fence. The Revised Project includes a total of approximately 13,967 linear feet of fence. (Tr. 1, p. 22)

87. Solar panels would be installed at the following distances from the project perimeter fencing for the Revised Project for the four array areas.

Fenced Array Area	Revised Project Solar Panels to Fence Line in feet
Area 1	~ 2 to 54 feet
Area 2	~ 2 to 12 feet
Area 3	~ 15 to 76 feet
Area 4	~ 11 to 70 feet

(SRNS 6, Attachment 5 – Overall Site Plan)

88. The distances from the solar facility fence to the nearest property lines and off-site residences for both the Original Project and the Revised Project are listed in the table below.

Fenced Array Area	Original Project Nearest Property Line in feet	Original Project Nearest Residence in feet	Revised Project Nearest Property Line in feet	Revised Project Nearest Residence in feet
Area 1	13 feet to the west	148 feet to the north	13 feet to the west	172 feet to the north
Area 2	11 feet to the north	121 feet to the east	24 feet to the southeast	82 feet to the southeast
Area 3	99 feet to the west	132 feet to the east	35 feet to the northwest	132 feet to the east
Area 4	0.5 foot to the north*	104 feet to the north	0.5 foot to the north*	104 feet to the north

*The proposed fence (located directly north of the proposed access drive) for Area 4 would be approximately six inches from the nearest property line at its closest point.

(SRNS 2, Attachment 6; SRNS 6, Late Filed Exhibit e)

Site Access

89. A new 16-foot wide gravel access to Area 1 would extend to the north off of Route 184. For Area 2, a new 16-foot wide gravel access would extend to the northeast off of Route 184. For Area 3, a new 16-foot wide gravel access would extend to the south off of Route 184. For Area 4, a new 16-foot wide gravel access would extend to the west off of Boombridge Road. (SRNS 6, Attachment 5 – Overall Civil Plan)

90. The access road lengths for the Original Project versus the Revised Project are listed in the table below.

	Area 1 Access Drive in Linear Feet	Area 2 Access Drive in Linear Feet	Area 3 Access Drive in Linear Feet	Area 4 Access Drive in Linear Feet	Total
Original Project	675 feet	1,550 feet	2,086 feet	2,445 feet	6,756 feet
Revised Project*	327 feet	442 feet	2,070 feet	2,252 feet	5,091 feet

*The Revised Project results in a total reduction of 1,665 linear feet of new access as compared to the Original Project.

(SRNS 2, response 18)

Electrical Interconnection

91. The project would have a single, independently-metered system with a design capacity of approximately 9.9 MW AC. Electrical loss assumptions have been factored into the output of the facility. The facility output would be 9.9 MW AC at the point of interconnection. (SRNS 1, p. 9; SRNS 3, responses 13 and 14; Tr. 1, p. 20)
92. The project would interconnect to a new 13.8-kV distribution feeder that Eversource would construct from Shunock 32P Substation at 25 Pendleton Hill Road, North Stonington. (SRNS 1, p. 10)
93. The point of interconnection would be located inside Area 3 near the access drive off of Route 184. An underground feeder would exit the solar facility and transition to overhead along Route 184 while utilizing three new 50-foot tall utility poles. (SRNS 1, p. 11; Tr. 1, pp. 20, 42-43, 81-82)
94. The interconnection design and construction would be in accordance with Eversource and UI Guidelines for Generation Interconnection as well as State of Connecticut, ISO-NE and Federal Energy Regulatory Commission requirements as applicable. (SRNS 1, p. 11)
95. The demarcation point (or location of change of control from SRNS to Eversource) would be the load side of the primary meter. (SRNS 2, response 20)
96. SRNS completed a distribution System Impact Study which determined that the project is compliant with requirements identified in the Eversource and UI Generation Interconnection Technical Requirements document. (SRNS 2, response 16)
97. The project interconnection is not required to be reviewed by ISO-NE. ISO-NE reviewed and approved the project's distribution system impact study in July 2020. (SRNS 2, response 21)
98. SRNS discussed with Eversource the possibility of installing all of the electrical interconnection route underground before its final connection to Eversource's overhead distribution system. Eversource is reviewing this possibility but notes that they have not previously performed an interconnection with such configuration. (SRNS 6, Late Filed E)

99. SRNS will enter into a Collector Line Easement Agreement with Eversource to facilitate the intra-connection of the project across public right-of-way. (SRNS 1, p. 4)

Project Construction

100. The following permits would be required for construction and operation of the project:
- a) DEEP Stormwater Permit;
 - b) United States Army Corps of Engineers New England District – Connecticut General Permits as a Self-Verification Notification Form eligible project under Federal Clean Water Act Sections 404 and 401 (401 Water Quality Certificate administered by DEEP);
 - c) Town Building and Electrical Permits;
 - d) Municipal Road Opening Permit; and
 - e) DOT Encroachment Permit.
- (SRNS 2, response 4)
101. Material laydown and construction equipment storage would occur within an approximately 0.83 acre area near the access road to Area 3, located south of Route 184. (SRNS 6, Attachment 4, p. 1 and Drawing PV-100)
102. A total of approximately 3,496 trees six inches diameter or greater (or about 46 acres in area) would be cleared to construct the Original Project. The Revised Project would reduce the estimated tree clearing to about 3,344 trees (or about 44 acres in area). (SRNS 2, response 23)
103. Existing grades would be utilized to the fullest extent possible in order to minimize earth work, but some earth work is proposed in order to control stormwater runoff and meet equipment tolerances. (SRNS 1, p. 7)
104. The site would be graded in areas where topography has a greater than 20 percent slope to accommodate the installation of basins, ditching and access roads. Areas where grading is necessary have decreased for the Revised Project versus the Original Project. (SRNS 2, response 47a)
105. Within the solar array areas, due to the racking equipment, the design slope is less than 15 percent for construction and maintenance purposes. In order to facilitate a reduction in disturbances and grading, the Revised Project would include slopes up to 20 percent in some locations. (SRNS 2, response 47b)
106. With the Revised Project, access road grading would require approximately 2,227 cubic yards (cy) of cut and 2,193 cy of fill and would be a reduction versus the Original Project. (SRNS 2, response 47e)
107. With the Revised Project, solar field grading would require approximately 1,046 cy of cut and 690 cy of fill and would be a reduction versus the Original Project. (SRNS 2, response 47f)
108. If approved, construction would commence approximately early 2022, and commercial operation of the facility would be achieved by the end of June 2022. (Tr. 2, p. 142)
109. Construction hours would be Monday through Saturday from 7:00 AM to 7:00 PM and Sunday, if necessary. (SNRS 1, p. 18; Tr. 1, p. 50)

Traffic

110. During construction, approximately 60 to 70 construction vehicles of average/light duty size would visit the site daily. (SRNS 1, p. 18)

111. Once operational, the site would require minimal traffic. Typically, one to two light-duty vehicles would visit the site per month on average to perform standard operations and maintenance activities. (SRNS 1, p. 18)

Facility Operation

112. The projected capacity factor is approximately 21 percent for both the Original Project and the Revised Project on an AC MWh to AC MWh basis, and it includes factors such as hard shading e.g. weather events, dust, and pollen. (SNRS 1, p. 9; SRNS 2, response 12; Tr. 3, pp. 12-13)
113. The Original Project included 455 Watt bifacial solar panels. With the Revised Project, SRNS proposes 475 Watt bifacial solar panels. The 455-watt module has an efficiency factor of up to 25 percent. The 475-watt module has an efficiency factor of at least 20.5 percent. (SRNS 1, p. 6; SRNS 2, response 11 and Attachment 17)
114. SRNS has no plans to incorporate a battery storage system into the project. (SRNS 2, response 14)
115. The project is not designed to serve as a microgrid. It would require extensive design changes to perform this function including, but not limited to, the inclusion of an energy storage system. (SRNS 2, response 15)

Operations and Maintenance

116. SRNS provided a post-construction Operations and Maintenance Plan (O&M Plan) that includes, but is not limited to, provisions for remote monitoring, equipment maintenance, and site safety and security. (SRNS 2, response 50, O&M Plan)
117. The main topics of the post-construction O&M Plan include, but are not limited to, the following:
- a) Emergency response;
 - b) System monitoring;
 - c) System performance monitoring;
 - d) Preventative and scheduled maintenance;
 - e) Notification procedures for performance or safety issues;
 - f) Technical training; and
 - g) Site access.
- (SRNS 2, response 50, O&M Plan)
118. For vegetation maintenance, SRNS proposes Adaptive Multi-Paddock sheep grazing which would supplement mowing at the site. Mowing would occur approximately three to five times per year typically during the March/April, July/August, and September/October time periods subject to weather conditions. (SRNS 2, response 50, Attachment 16, Integrated Vegetation Management Plan)
119. No snow removal is expected. (SRNS 2, response 50, Attachment 16; Tr. 1, pp. 19, 45-46)
120. SRNS would store spare solar panels on site in a storage container. The quantity of panels would be approximately 0.1% of the installed panels. The storage container would be located either in the laydown area (south of Route 184) or adjacent to the stormwater basin near the southwest corner of the southwestern solar array. Any damaged panels would be detected via direct current health analytics performed at the site or through aerial thermal imaging of the facility. (SNRS 2, response 51)

Project Decommissioning

- 121. The project has a design life of approximately 40 years. (SNRS 1, p. 9; Tr. 1, pp. 35-36)
- 122. At the end of the project's lifespan, it will be fully decommissioned and removed from the property. The site would be restored to its original condition, with the exception of any access roads and fencing which may remain if useful for future use of the site. (SNRS 1, p. 10 and Attachment D – Decommissioning Plan)
- 123. SRNS intends to recycle project materials, including solar panels, to the maximum extent practicable at the end of the life of the project. Project materials that cannot be recycled would be removed from the site and disposed of at a licensed disposal facility. (SNRS 1, p. 10 and Attachment D – Decommissioning Plan, pp. 2-4)
- 124. SRNS provided Toxicity Characteristic Leaching Procedure (TCLP) results from a solar panel manufacturer for panels that are substantially equivalent to those proposed for the Revised Project. Based on these results, metals used to construct the solar panels are not present at levels that would be considered toxic by the United States Environmental Protection Agency. (SRNS 2, response 52; SRNS 6, Attachment 13)

Public Safety

- 125. The proposed project would comply with the NEC, the National Electrical Safety Code (NESC) and the National Fire Protection Association (NFPA) code. (SRNS 1, p. 20)
- 126. Prior to commencement of operation, SRNS would meet with the Town first responders to provide them with information regarding response to emergencies on solar facilities, discuss industry best practices and provide a tour of the site and project. (SRNS 1, p. 19)
- 127. Emergency responders would be provided access to the site via a “knox box” (or equivalent) to allow rapid access through all of the gates on a 24/7 basis. (SRNS 1, p. 19)
- 128. The facility would be remotely monitored on a 24/7 basis by SR or its representatives. In the event of a fire, SR would remotely disconnect the facility from the Eversource grid, cease inverter operation and de-energize the project while personnel are dispatched to the facility. (SRNS 1, p. 19; Tr. 3, pp. 13-14)
- 129. The majority of the site is located within Federal Emergency Management Agency (FEMA)-designated Zone X, which is an area outside of the 500-year flood zone with a minimal risk flooding. The extreme southwestern portion of the site is identified as Zone A, a high flood risk area; no development is proposed in this portion of the site. (SRNS 1, p. 28)
- 130. SRNS had discussions with DEEP regarding the potential need for a dam permit or registration. The stormwater basin storage volumes and embankment heights appear to be well under the threshold for a dam permit or registration. Notwithstanding, DEEP would review this again when SRNS applies for its stormwater permit. (Tr. 3, p. 17)
- 131. The FAA requires a glare analysis for on-airport solar development at federally obligated airports. Federally obligated airports are airports that receive federal funding. The FAA recommends that the design of any solar installation at an airport consider the approach of pilots and ensure pilots will not have to face glare that is straight ahead of them or within 25 degrees of straight ahead during the final approach. (Council Administrative Notice Item Nos. 17-19)

132. The nearest federally-obligated airport to the facility is T.F. Green International Airport in Warwick, Rhode Island, located approximately 32.6 miles from the site. According to the FAA Notice Criteria Tool, the project does not exceed FAA notice criteria. Thus, no additional consultation with FAA, and no glare analysis is required. (SRNS 2, response 22)

Noise

133. Noise emissions from the solar facility would be from 5 transformers and 45 inverters. (SRNS 1, Attachment N – Noise Impact Assessment, p. 1)
134. The transformers and inverters would only operate during the day when electricity is produced by the solar panels. (SRNS 1, Attachment N – Noise Impact Assessment, p. 2)
135. The project was modeled as a Class A (residential) emitter, and its surrounding abutters are considered Class A receptors. The DEEP Noise Control Limits for a Class A emitter to a Class A receptor for is 55 dBA during the daytime. (SRNS 1, Attachment N – Noise Impact Assessment, pp. 2-3)
136. The Original Project would be in compliance with DEEP Noise Control Standards because the highest predicted sound level at the surrounding receptor locations would be 44.9 dBA. (SRNS 1, Attachment N – Noise Impact Assessment, pp. 1-8; RCSA §22a-69-3.5)
137. The Revised Project contains changes to inverter and transformer locations. However, the changes are not expected to be significant in terms of noise analysis results, and the noise sources are still considered very low. Thus, the Revised Project is still expected to comply with DEEP Noise Control Standards. (Tr. 1, pp. 30-31)
138. Construction noise is exempt from DEEP Noise Control Standards. (RCSA §22a-69-108(g))

Environmental Effects

Air Quality

139. The proposed project would meet DEEP air quality standards and would not produce air emissions of regulated air pollutants or greenhouse gases (GHG). The project does not require an air permit. (SRNS 1, pp. 20, 35)
140. An equivalent-sized combined cycle natural gas fueled electric generating facility would produce a mean value of about 315,905 metric tons of carbon dioxide equivalent (MT CO₂eq) over an equivalent 40-year service life. The proposed solar facility would have an estimated median carbon debt of 31,590 MT CO₂eq. Thus, the solar facility would result in a 90 percent reduction in GHG emissions. (SRNS 2, response 29, Attachment 10)
141. During construction of the proposed project, any air emissions effects would be temporary in nature, and potential effects on air quality would be de minimus. Air emissions during construction would be minimized through appropriate mitigation measures such as the use of water for dust control and avoiding mass early morning vehicle startups. (SRNS 1, p. 20)

Water Quality

142. As applicable to any proposed jurisdictional facility site, the Council's Filing Guide for a Petition for a Declaratory Ruling for a Renewable Energy Facility requires the submission of Plans for erosion and sedimentation control consistent with the *2002 Connecticut Guidelines for Erosion and Sedimentation Control (2002 Guidelines)*; Water consumption and discharge rates; FEMA Flood Zone information and associated flood mitigation plans; Proximity to DEEP Aquifer Protection Areas; DEEP groundwater classification underlying the site; Wetland and Watercourse Analysis Report and map, and associated Wetland and Watercourse Impact Mitigation Plan; and Vernal Pool Analysis Report and map, and associated Vernal Pool Impact Mitigation Plan. (Record)
143. During operation, the project would not require water use. (SRNS 1, p. 28)
144. Groundwater at the site is classified by DEEP as "GA" which indicates groundwater that is presumed to be suitable for human consumption without treatment. No impacts on water quality are anticipated to result from the project. (SRNS 1, pp. 28-29; RCSA §22a-426-7(d)(2))
145. The site is located within the Town's Aquifer Protection Zone. (SRNS 2, response 39; SRNS 1, Attachment B)
146. The site is not located within a DEEP-designated Aquifer Protection Area (APA). The nearest DEEP-designated APA is located approximately 3.6 miles northwest of the site. (Council Administrative Notice Item No. 95; SRNS 1, Attachment B)
147. SRNS originally proposed three 500-gallon above-ground diesel fuel storage tanks to be located at the laydown area south of Route 184. SRNS subsequently revised its plans to include mobile fuel delivery by truck only; no on-site fuel storage tanks would be installed. SRNS would work with its contractor to develop temporary containment measures. (SRNS 2, response 34; Tr. 1, pp. 54-55, 98; Tr. 3, pp. 9, 18-19)
148. SRNS has a draft Spill Prevention, Control, and Countermeasure Plan (SPCC) which may be updated or refined based on the final design and construction conditions. (SRNS 2, response 35)
149. The ground screws to support the racking system are not expected to result in groundwater quality issues. (SRNS 2, response 41)
150. There are no drinking water wells at the site. Impacts to surrounding wells are not expected because, although well construction specifics are not known, it is likely that any potable drinking water wells installed within the bedrock aquifer are at depths far below the construction zone. Thus, no disruptions to well water flows or water quality is anticipated, and no specific precautions are warranted. (SRNS 2, response 33)

Stormwater

151. Pursuant to CGS Section 22a-430b, DEEP retains final jurisdiction over stormwater management and administers permit programs to regulate stormwater pollution. DEEP regulations and guidelines set forth standards for erosion and sedimentation control, stormwater pollution control and best engineering practices. (CGS §22a-430b; DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities. (DEEP-WPED-GP-015)

152. The DEEP Individual and General Permits for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Stormwater Permit) require implementation of a Stormwater Pollution Control Plan (SWPCP) to prevent the movement of sediments off construction sites into nearby water bodies and to address the impacts of stormwater discharges from a proposed project after construction is complete. In its discretion, DEEP could hold a public hearing prior to approving or denying any Stormwater Permit application. (CGS Section 22a430b; CGS Section 22a-430(b))
153. The SWPCP incorporates project designs consistent with the *2002 E&S Guidelines* and the *2004 Connecticut Stormwater Quality Manual* (2004 Stormwater Manual). (DEEP-WPED-GP-015)
154. DEEP has the authority to enforce proposed project compliance with its Individual or General Permit and the SWPCP, including, but not limited to, the installation of site-specific water quality protection measures in accordance with the *2002 E&S Guidelines*. (CGS Section 22a-430b)
155. The Council may impose a condition that requires subsequent compliance with DEEP standards and regulations. (Council Administrative Notice No. 79)
156. The project would require a DEEP-issued Stormwater Permit prior to commencement of construction. (CGS Section 22a-430b)
157. SRNS met with DEEP on May 4, 2020 and September 20, 2020 to discuss the Original Project features including stormwater design. (SRNS 1, p. 14)
158. The revised project would comply with the *2002 E&S Guidelines* and *2004 Stormwater Quality Manual*. (SRNS 6, Attachment 6)
159. The rows of solar panels are not considered “closed systems” because of the gaps between each module. Therefore, the drip edge of each solar panel would not impact the site’s drainage patterns because stormwater would flow off of the panels at multiple locations as the panels follow the land contours. After construction is complete and the site is fully stabilized, channelization along the drip edge is not expected. (SRNS 2, response 36)
160. Stormwater calculations were performed for 2, 25, 50, and 100-year storms. The engineering stormwater management system for the Revised Project would result in no net increase in peak flows, erosive velocities or volumes, or adverse impacts to downstream properties. (SRNS 6, Attachment 6 – SWPCP, pp. 8-9)
161. The Revised Project would comply with Appendix I of the Stormwater Permit. (SRNS 2, response 2, p. 7 and response 26)
162. SRNS attended a pre-application meeting with DEEP Stormwater Division on June 9, 2021 regarding the Revised Project and an additional project unrelated to this Petition. There are no questions or comments that required follow-up or additional action with respect to the Revised Project. (Tr. 1, pp. 31-32; Tr. 3, pp. 16-17)
163. An undisturbed vegetative buffer between a developed area and a wetland resource can filter pollutants and protect water quality from stormwater runoff. (Council Administrative Notice No. 50 - *2004 Stormwater Quality Manual*, pp. 4-3 – 4-4)

164. Generally, a minimum 100-foot undisturbed upland buffer along a wetland boundary or on either side of a watercourse should be maintained to promote water quality. Establishment of buffers should also consider slopes and the sensitivity of wetland/watercourse resources. (Council Administrative Notice No. 50 – 2004 Stormwater Manual, pp. 4-3 – 4-4)
165. As of July 8, 2021, SRNS had not yet discussed with DEEP Stormwater Division the proposed sheep grazing on the site, but SRNS expects to address this during a future meeting with DEEP Stormwater Division. (Tr. 1, pp. 31-32; Tr. 3, pp. 96-97)

Wetlands and Watercourses

166. The Inland Wetlands and Watercourses Act (IWWA), CGS §22a-36, *et seq.*, contains a specific legislative finding that the inland wetlands and watercourses of the state are an indispensable and irreplaceable but fragile natural resource with which the citizens of the state have been endowed, and the preservation and protection of the wetlands and watercourses from random, unnecessary, undesirable and unregulated uses, disturbance or destruction is in the public interest and is essential to the health, welfare and safety of the citizens of the state. (CGS §22a-36, *et seq.*)
167. The IWWA grants regulatory agencies with the authority to regulate upland review areas in its discretion if it finds such regulations necessary to protect wetlands or watercourses from activity that will likely affect those areas. (CGS §22a-42a)
168. The IWWA forbids regulatory agencies from issuing a permit for a regulated activity unless it finds on the basis of the record that a feasible and prudent alternative does not exist. (CGS §22a-41)
169. Under the IWWA:
- a) “Wetlands” means land, which consists of any of the soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the National Cooperative Soils Survey, as may be amended from time to time, of the Natural Resources Conservation Service of the United States Department of Agriculture;
 - b) “Watercourses” means rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border the state; and
 - c) Intermittent watercourses are delineated by a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (A) Evidence of scour or deposits of recent alluvium or detritus, (B) the presence of standing or flowing water for a duration longer than a particular storm incident, and (C) the presence of hydrophytic vegetation. (CGS §22a-36, *et seq.*)
170. Wetland inspections and delineations were performed during April 2017, November 2018, May 2019, and June 2019. (SNRS 1, p. 29; SRNS 1, Attachment U – Wetlands and Habitats Report)

171. The following wetlands were identified on the Northern Parcel.

Wetland	Location	Original Project Buffer Distance to Fence Line in Feet	Revised Project Buffer Distance to Fence Line in Feet
A-2	Between Area 1 and Area 2	~25 feet	~50 feet*
B-2	North of Area 2	~25 feet	~ 100 feet
C-2	South of Area 2	~25 feet	~ 50 feet*

*A 100-foot buffer from wetlands to solar panels would be maintained in the Northern Parcel for the Revised Project.

(SRNS 1, Attachment A – Drawing PV-100; SRNS 6, Attachment 5 – Overall Civil Plan)

172. The following wetlands were identified on the Southern Parcels and are listed below with their respective distances to the array area fence lines for both the Original Project and the Revised Project.

Wetland	Location	Original Project Buffer Distance to Fence Line in Feet	Revised Project Buffer Distance to Fence Line in Feet
B/1B	East and Southeast of Area 4	~25 feet	~100 feet
C	South of Area 4	~25 feet	>100 feet
1C	Southwest of Area 4	>100 feet	>100 feet
E	Between Area 3 and Area 4	>100 feet	~25 feet*
2E	South of Area 3	>100 feet	>100 feet
3E	Southwest of Area 3	>100 feet	>100 feet
F	Southwest of Area 3	~100 feet	>100 feet
G	Southwest of Area 4	>100 feet	>100 feet
H	Southwest of Area 3	>100 feet	>100 feet
H1	West of Area 4	>100 feet	>100 feet
1H	Southwest of Area 3	>100 feet	>100 feet
2H	Southwest of Area 3	>100 feet	>100 feet
J	South of Area 3	>100 feet	>100 feet
K	South of Area 3	>100 feet	>100 feet
L	South of Area 3	>100 feet	>100 feet
M	South of Area 3	>100 feet	>100 feet
O	Southwest of Area 3	>100 feet	>100 feet
X	Southwest of Area 3	>100 feet	>100 feet

*The fence would be about 25 feet from this wetland to accommodate a stormwater basin, but the solar panels would be at least 100 feet from this wetland.

(SRNS 1, Attachment A – Drawing PV-100; SRNS 6, Attachment 5 – Overall Civil Plan)

173. The Original Project would result in approximately 4,006 square feet of wetlands impacts due to access drive crossings for array Areas 1 and 4. (SRNS 1, p. 29 and Attachment A – Drawing PV-100; SRNS 6, Late Filed Exhibit i)

174. The Revised Project would result in approximately 2,720 square feet of wetland impacts associated with the access drive crossings for array Areas 1 and 4. The amount of wetland impact area was reduced by eliminating one wetland crossing (Culvert 2 at Wetland B-2) and redesigning the remaining crossings. The crossing at Culvert 1 (at Wetland A-2) was reduced by using longer wingwalls which allow for less fill to be placed on side slopes that extend into wetlands. The crossing at Culvert 3 (at Wetland B/1B) was also reduced. Culvert 4 (at Wetlands A/1A) was enlarged and can span the wetlands to avoid permanent impacts. (SRNS 6, Late Filed Exhibit i and Attachment 5 – Overall Civil Plan)
175. A comparison of wetland impact areas for the Revised Project versus the Original Project is listed below.

	Original Project Wetland Impact Areas in Square Feet	Revised Project Wetland Impact Areas in Square Feet
Wetland A-2 (Culvert 1)	1,136	628
Wetland B-2 (Culvert 2)	257	N/A
Wetland B/1B (Culvert 3)	2,334	2,092
Wetland A/1A (Culvert 4)	279	0
Total	4,006	2,720

(SRNS 6, Late Filed Exhibit i)

Vernal Pools

176. Vernal pool habitat surveys were performed during April 2017, April 2018 and April 2019. (SRNS 1, Attachment U – Wetlands and Habitats Report, pp. 23-24)

177. Eleven vernal pools were identified and are listed in the table below.

Vernal Pools (VP)	Location
VP-1	Wetland A-2
VP-C	Wetland C
VP-E	Wetland E
VP-3E	Wetland 3E
VP-G	Wetland C
VP-H	Wetland H
VP-1H	Wetland 1H
VP-I	Wetland I
VP-L	Wetland L
VP-N	Wetland N
VP-O	Wetland O

(SRNS 1, Attachment U – Wetlands and Habitats Report, pp. 22-27)

178. For the Original Project, construction would occur within the 100-foot vernal pool envelopes (VPEs) of two vernal pools: VP-1 and VP-E. The distances from the fencing to the vernal pools for VP-1 and VP-E would be approximately 61 feet and 55 feet, respectively. (SRNS 1, Attachment A – Drawing PV-100)
179. For the Revised Project, no construction would occur within the 100-foot vernal pool envelopes of any vernal pools. (SRNS 6, Attachment 5 – Overall Civil Plan)
180. For the Revised Project, nine vernal pools would have less than 25 percent post-construction development of the 100-foot to 750-foot Critical Terrestrial Habitat (CTH) areas. The percent post-construction development areas of the CTHs for VP-1 and VP-E would exceed 25 percent for the Revised Project. However, directional corridors and optimal CTH habitat for both VP-1 and VP-E would be conserved. (SRNS 2, response 37)
181. The Revised Project would be consistent with the 2015 U.S. Army Corps of Engineers New England District’s Vernal Pool Best Management Practices. (SRNS 2, response 37)

Visibility

182. The solar panels are designed to absorb incoming solar radiation and minimize reflectivity. A small percentage of incidental light would be reflected off the panels. (SRNS 1, p. 19)
183. A majority of the project would be shielded from view due to existing landscaping and topography. (SRNS 1, p. 19)
184. There are no scenic roads proximate to the site. (SRNS 1, p. 21)
185. There are no nearby hiking trails that would serve as potential visual observation points for the project. (SRNS 1, p. 21)
186. The nearest parcel used for publicly accessible recreational purposes is Samuel Cote Preserve (SCP) located south of Route 216 and about 0.9 mile from the limits of disturbance of the Revised Project. The Revised Project would not be visible from SCP. (SRNS 2, response 42)

187. Most of the project would be set back from adjoining roadways and behind vegetative buffers. (SNRS 1, p. 21)
188. Some portions of the project may be visible from public roadways and adjoining parcels. Accordingly, SNRS provided two photo-simulations as viewed from the westbound lane of Route 184, directly opposite 454 Providence New London Turnpike. Such photo-simulations show that the fence line and associated landscaping associated with Area 3 and Area 4 would be visible from portions of Route 184. (SRNS 1, pp. 21-22 and Attachment Y; SRNS 2, response 3(a))
189. Due to existing vegetation north of Route 184, Area 1 and Area 2 would not be visible from Route 184. Additionally, the Revised Project increased the tree buffer from Route 184 to the solar arrays in Area 1 and Area 2 from 110 feet to 180 feet. (SRNS 2, response 3(a))
190. Seven homes would have year-round views of some portion of the solar arrays. (SRNS 2, response 3(a))
191. Prior to the June 8, 2021 evidentiary hearing, SRNS reached out to all abutting property owners. Many of these abutting property owners attending a site walk that was held by SRNS in March 2021. Some abutting property owners reached out to SRNS regarding visual impacts and mitigation. (SRNS 6, Late Filed Exhibits, p. 12)
192. SRNS held discussions with the property owner of 116 Boombridge Road. The property owner's residence is located over 500 feet from the Revised Project's limits of disturbance, and the property owner would have limited seasonal views of the Revised Project. Between this home and the property boundary is a mature stand of trees, the property owner's own ground-mounted solar arrays and an open lawn area. All of these features would remain post-construction in addition to over 40 feet of existing trees that would remain undisturbed on the site and this abutting property. (SRNS 6, Late Filed Exhibits, pp. 13-14)
193. SRNS is in discussions with the property owner of 435 Providence New London Turnpike and is evaluating a visual screening solution. This property line is located about 27 feet north of the Revised Project's limits of disturbance. (SRNS 6, Late Filed Exhibits, p. 14; Tr. 1, p. 70; SRNS 2, response 10 – Attachment 6)
194. SRNS met with the owner of 476 Providence New London Turnpike. The property line is approximately six inches north of the Revised Project's limits of disturbance. Based on the discussions, SRNS would deploy straw bales across a portion of this property owner's southern and western property line during construction to block views of the project from this home and the dog kennel as well as to provide noise mitigation during construction. SRNS is also in discussions with the property owner regarding long-term visual screening measures. (SRNS 6, Late Filed Exhibits, pp. 5 and 13; SRNS 2, response 10; Tr. 1, pp. 58-59; SRNS 2, response 10 – Attachment 6)
195. SRNS is in discussion with the property owner of 477 Providence New London Turnpike regarding visual mitigation measures. The property line is approximately 7 feet to the southeast of the Revised Project's limits of disturbance. (SRNS 6, Late Filed Exhibits, p. 13; SRNS 2, response 10 and Attachment 6; Tr. 1, pp. 69-70)

Historic and Archaeological Resources

196. An Archeological Sensitivity Assessment (ASA) was prepared for the site in June 2019. (SRNS 1, Attachment P – ASA)

197. North Stonington Village Historic District (NSVHD) was identified in the ASA as listed on the State Register of Historic Places (SRHP). NSVHD is located approximately 3 miles west of the proposed site. (SRNS 1, Attachment P – ASA, p. 1)
198. Remnant stone walls are located within several wooded areas of the proposed site. Stone walls and piles would be removed as part of the clearing the site preparation process. Stone walls and piles located outside of the project fence lines would be maintained to the fullest extent possible. (SRNS 1, pp. 23-24)
199. SRNS is exploring the possibility of reconstructing existing stone walls and/or constructing new stone walls using material from on-site to further mitigate views of the facility. (Tr. 1, pp. 18-19)
200. The ASA identified approximately 57 acres that possess moderate to high sensitivity for containing archaeological resources and recommended that such areas be subjected to subsurface testing via shovel tests. A Phase I Reconnaissance Survey (Phase I Survey) was performed (SRNS 1, p. 23)
201. The Phase I Survey Report dated November 2020 indicates a total of 202 test pits were excavated within the project area. The yielded materials are identified as field debris and are not consistent with a potentially significant archaeological site; therefore, no additional surveys were recommended. SRNS 1, Attachment S – Phase I Survey Report, pp. i and 17)
202. By letter dated December 28, 2020, SHPO determined that the low density scatter of common historic artifacts is not eligible for listing in the NRHP; no additional testing of the project area is warranted; and no historic properties would be affected by the solar facility. (SRNS 1, Attachment X – SHPO Letter dated December 28, 2020)
203. A small cemetery is located in the westerly portion of the site. SRNS would maintain a 100-foot buffer between the project development area and the cemetery to avoid impacts to the cemetery. SRNS had consulted with SHPO regarding the proposed 100-foot buffer, and SHPO agreed that it would be sufficient. (SRNS 1, p. 24; SRNS 6, Attachment 4 – Drawing No. PV-100 and Attachment 5 – Overall Site Plan; Tr. 1, pp. 84-85)
204. Old Route 184 traverses the Northern Parcels and connects to Stillman Road. Parallel stone walls mark the former route of Stillman Road before it was truncated. The Town indicated an interest in purchasing the Northern Parcels. (Town 2; Tr. 3, pp. 103-104; SRNS 1, Exhibit S – Phase I, p. 21)

Wildlife

205. On May 16, 2017, a DEEP Natural Diversity Database (NDDB) Preliminary Assessment was provided to SRNS. This assessment identified the known extant populations of six state-listed plant and animal species that occur within or near the boundaries of the site. SRNS 1, Attachment U – Wetlands and Habitats Report, Attachment F – NDDB Letter)
206. The 6 state-listed species referenced in the NDDB preliminary assessment include: sparkling jewelwing; eastern pearlshell; low frostweed; hoary plantain; red bat; and eastern spadefoot. (SRNS 1, Attachment U – Wetland and Habitats Report, Attachment F – NDDB Letter)
207. SRNS performed an amphibian breeding season field survey during 2017 through 2020. (SRNS 1, Attachment U – Wetlands and Habitats Report, p. 30)

- 208. SRNS performed a survey for state-listed plant species in November 2018. (SRNS 1, Attachment U – Wetlands and Habitats Report)
- 209. SRNS' eastern spadefoot survey commenced approximately May 2021 and was still ongoing as of the July 8, 2021. (SRNS 1, Attachment U – Wetlands and Habitats Report, p. 35; SRNS 2, response 3(a); Tr. 3, p. 32-33)

Invertebrates

- 210. The sparkling jewelwing, a state-listed Threatened Species, was not surveyed at this site. Notwithstanding, should this species be present at the site and associated with the flowing streams of Wetland E and the southernmost section of Wetland B/1B, the project would not be expected to affect these habitats, and the species would be secure. (SRNS 1, Attachment U – Wetlands and Habitats Report, pp. 39-40; Council Administrative Notice Item No. 56 – 2015 DEEP Endangered, Threatened and Special Concern Species)
- 211. The eastern pearlshell, a state-listed Species of Special Concern, is not expected to be present at the site because the site does not contain perennial streams which would be suitable habitat. (SRNS 1, Attachment U – Wetlands and Habitats Report, pp. 35; Council Administrative Notice Item No. 56 – 2015 DEEP Endangered, Threatened and Special Concern Species)

Plants

- 212. Low frostweed, a state-listed Species of Special Concern, is unlikely to be present at the site. Notwithstanding, its preferred habitat would be left intact and would not be affected by the solar facility. (SRNS 1, Attachment U – Wetlands and Habitats Report, p. 40; Council Administrative Notice Item No. 56 – 2015 DEEP Endangered, Threatened and Special Concern Species)
- 213. Hoary plantain, a state-listed Species of Special Concern, was not found at the site, and open quarry habitat areas would be preserved. Thus, the project would not adversely affect this species. (SRNS 1, Attachment U – Wetlands and Habitats Report, p. 41; Council Administrative Notice Item No. 56 – 2015 DEEP Endangered, Threatened and Special Concern Species)

Mammals

- 214. The red bat, a state-listed Species of Special concern, may utilize portions of the site during roosting season. (SRNS 1, p. 26)
- 215. The northern long-eared bat (NLEB), a federally-listed Threatened Species and state-listed Endangered Species may utilize portions of the site during roosting season. There are no known maternity roost trees in Connecticut. The nearest NLEB hibernacula is located in the Town of North Branford, approximately 47 miles west of the site. (SRNS 1, p. 26; Council Administrative Notice Item No. 56 – 2015 DEEP Endangered, Threatened and Special Concern Species; SRNS 1, Attachment U – Wetlands and Habitats Report, p. 42 and Attachment G – NLEB Map)
- 216. SRNS would avoid tree clearing during the June and July pup season of the NLEB and the red bat to be protective of both species. (SRNS 1, Attachment U – Wetlands and Habitats Report, p. 42)

Amphibians

- 217. The eastern spadefoot is a state-listed Endangered Species. The Southern Parcels contain potential habitat for the eastern spadefoot. (Council Administrative Notice Item No. 56 – 2015 DEEP Endangered, Threatened and Special Concern Species; SRNS 1, pp. 25-27; SRNS 1, Exhibit U, p. 35; SRNS 6, Late File Exhibit n; Tr. 3 pp. 46-47)
- 218. Surveys for the eastern spadefoot commenced in May 2021, and as of July 8, 2021, 12 nocturnal surveys have been performed. The 2021 season for eastern spadefoot surveying has been suboptimal due to dry conditions and cold nighttime temperatures. (SRNS 1, p. 28; SRNS 2, response 31; Tr. 1, p. 93; Tr. 3, p. 32-33)
- 219. As of July 8, 2021, no eastern spadefoots have been observed on the subject property. However, eastern spadefoots have been detected at two off-site locations in North Stonington. Three more nocturnal surveys need to be completed to reach a total of 15, and a final report will be prepared. (Tr. 1, pp. 93-94; Tr. 3, pp. 32-33; SRNS 2, response 31)

Reptiles

- 220. During its site investigations/surveys, SRNS observed three additional state-listed Species of Special Concern at the site: the ribbon snake, the eastern box turtle (EBT), and the spotted turtle. (Council Administrative Notice Item No. 56 – 2015 DEEP Endangered, Threatened and Special Concern Species; SRNS 1, Attachment U – Wetlands and Habitats Report, p. 35)
- 221. SRNS would apply the standard search and exclusion protocols recommended by DEEP prior to any land disturbance to be protective of the EBT. (SRNS 1, Attachment U – Wetlands and Habitats Report, p. 38)
- 222. SRNS would preserve vernal pool habitat for the spotted turtle. (SRNS 1, Attachment U – Wetlands and Habitats Report, p. 39)
- 223. Because the majority of the proposed activities would be located outside of the preferred habitat of the ribbon snake and all vernal pool habitats would be conserved, it is unlikely that the project would impact the ribbon snake. (SRNS 1, Attachment U – Wetlands and Habitat Report, p. 36)

Geology

- 224. A geotechnical engineering report (Geotech Report) dated January 25, 2021 was prepared. The Geotech Report addressed the Southern Parcels and the Northern Parcel. (SRNS 1, Attachment 15 – Geotech Report; Tr. 3, pp. 86-87)
- 225. Four test borings (B-1 through B-7) and nine test pits (TP-1 through TP-9) were performed at depths ranging from 3 to 20.5 feet below existing grade. (SRNS 1, Attachment 15 – Geotech Report, p. 1)
- 226. Groundwater depths were measured at locations B-5, TP-5 and TP-6 and found to be 16 feet, 6 feet and 8.5 feet below grade, respectively. (SNRS 1, Attachment 15 – Geotech Report, p. 3)
- 227. The Geotech Report originally recommended W6x12 steel piles. However, SRNS would utilize ground screws because they would be more suitable due to the potential for rock at the site. (SRNS 1, Attachment 15 – Geotech Report, p. 2; Tr. 1, p. 19)

Agriculture

228. The statutory mission of the Governor's Council for Agricultural Development (GCAD) is to develop a statewide plan for Connecticut agriculture. In 2012, GCAD recommended DOAg create an agriculture-friendly energy policy that include, but are not limited to, on-farm energy production to reduce costs and supplement farm income, agricultural net metering for power production and transmission, and qualification of agricultural anaerobic digestion projects for zero-emissions renewable energy credits ZRECs. (Council Petition 1312, Finding of Fact #227)
229. Agriculture in Connecticut is likely to be adversely impacted by climate change. It is most affected by changes in temperature and both the abundance and lack of precipitation. The top five most imperiled agricultural products are maple syrup, dairy, warm weather produce, shellfish and apple and pear production, but there are opportunities for production expansion with the future climate, including, but not limited to, biofuel crops, witch hazel and grapes. (Council Administrative Notice Item No. 68 – Climate Change Preparedness Plan)
230. Adaptation strategies for climate change impacts to agriculture include promotion of policies to reduce energy use, conserve water and encourage sustainability. (Council Administrative Notice Item No. 68 – Climate Change Preparedness Plan)
231. The proposed project would not qualify under Connecticut's Agricultural Virtual Net Metering Program because an agricultural virtual net metering facility is defined under CGS §16-244u(a)(7)(B) as having a nameplate capacity rating of 3 MW or less. (CGS §16-244u(a)(7)(B))
232. With the project limits of disturbance, approximately 0.5-acre is located on Prime Farmland Soils. Prime Farmland Soils impact area would remain approximately the same for both the Revised Project and the Original Project. (SRNS 1, p. 6; SRNS 2, response 27)
233. SRNS would implement an Adaptive Multi-Paddock sheep grazing program as the lead vegetation control measure at the solar facility. (SRNS 1, p. 17)
234. Sheep grazing is not an integral part of the project, but it would reduce the need for motorized landscaping vehicles and thus would lower operational costs. (SRNS 2, response 32a)
235. SRNS has consulted with American Solar Grazing Association, a nonprofit organization with a network of interested sheep farmers in Connecticut. (SRNS 2, response 32b)
236. Sheep could be located on site during the months of June through October. (SRNS 2, response 32c)
237. The sheep would be rotated through various array area and/or subdivided array areas. The sheep would not spend more than three days in any particular array area or subdivided array area. (SRNS response 32)
238. SRNS has not yet finalized specifically which of the array Areas 1 through 4 would host sheep. For example, due to the proximity of the dog pound, SRNS could avoid hosting sheep at Area 4. (SRNS 1, p. 17; Tr. 1, p. 63)
239. SRNS has not yet contacted the United States Department of Agriculture Natural Resource Conservation Service regarding an appropriate quantity of sheep per acre of area. (SRNS 32c)

240. If a fire were to occur while sheep are present at the site, the rancher or Petitioner's contractor/employee (depending on who is available on-site first) would move the sheep if it is safe for such personnel to do so. (Tr. 3, pp. 22-23)
241. The solar facility would utilize a regionally appropriate and diverse seed mix that would provide soil stabilization, achieve habitat and pollinator goals and would facilitate hosting livestock. (SRNS 2, response 32e)

Forest and Parks

242. The Northern Parcel is within a small core forest patch with a total contiguous area of 13.5 acres. (SRNS 2, response 2, Attachment 7; Tr. 3, p. 54).
243. The Original Project had approximately 3.51 acres of core forest impacts. The Revised Project reduces total core forest impacts to approximately 0.2 acre. (SRNS 6, Late Filed Exhibit f)

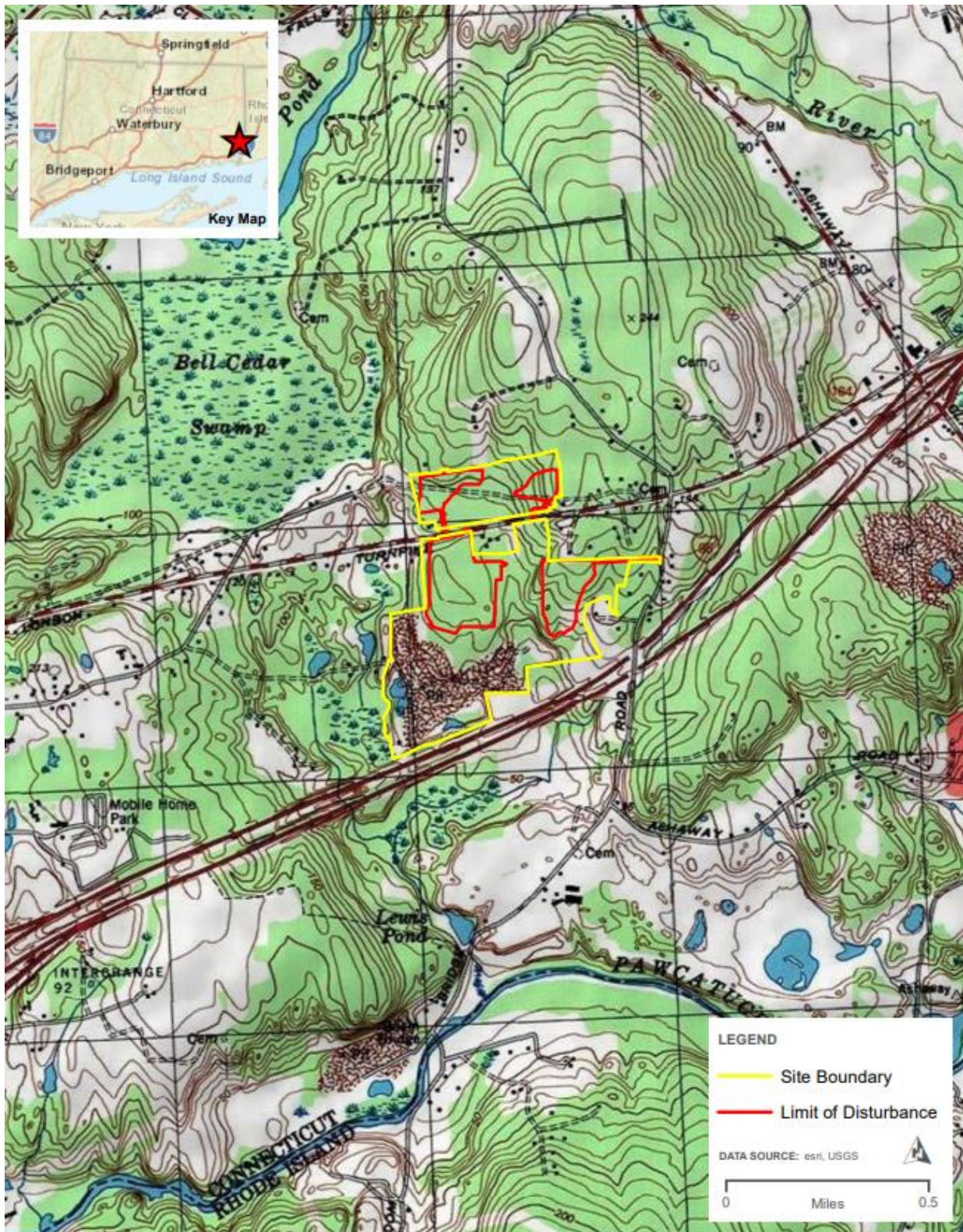
Costs

244. The total cost of the project is estimated between \$12 million and \$25 million, including project development costs, land acquisition and grid improvements. (Tr. 1, pp. 16, 103; Tr. 3, pp. 11-12; SRNS 6, Response a)
245. Use of bifacial, higher wattage solar panels increased the total cost of the project. (Tr. 3, pp. 11-12)
246. Undergrounding the electrical interconnection would increase project costs. SRNS contacted Eversource about the cost for undergrounding the electrical interconnection. (Tr. 1, pp. 37-43; SRNS 6, Response b)

Neighborhood Concerns

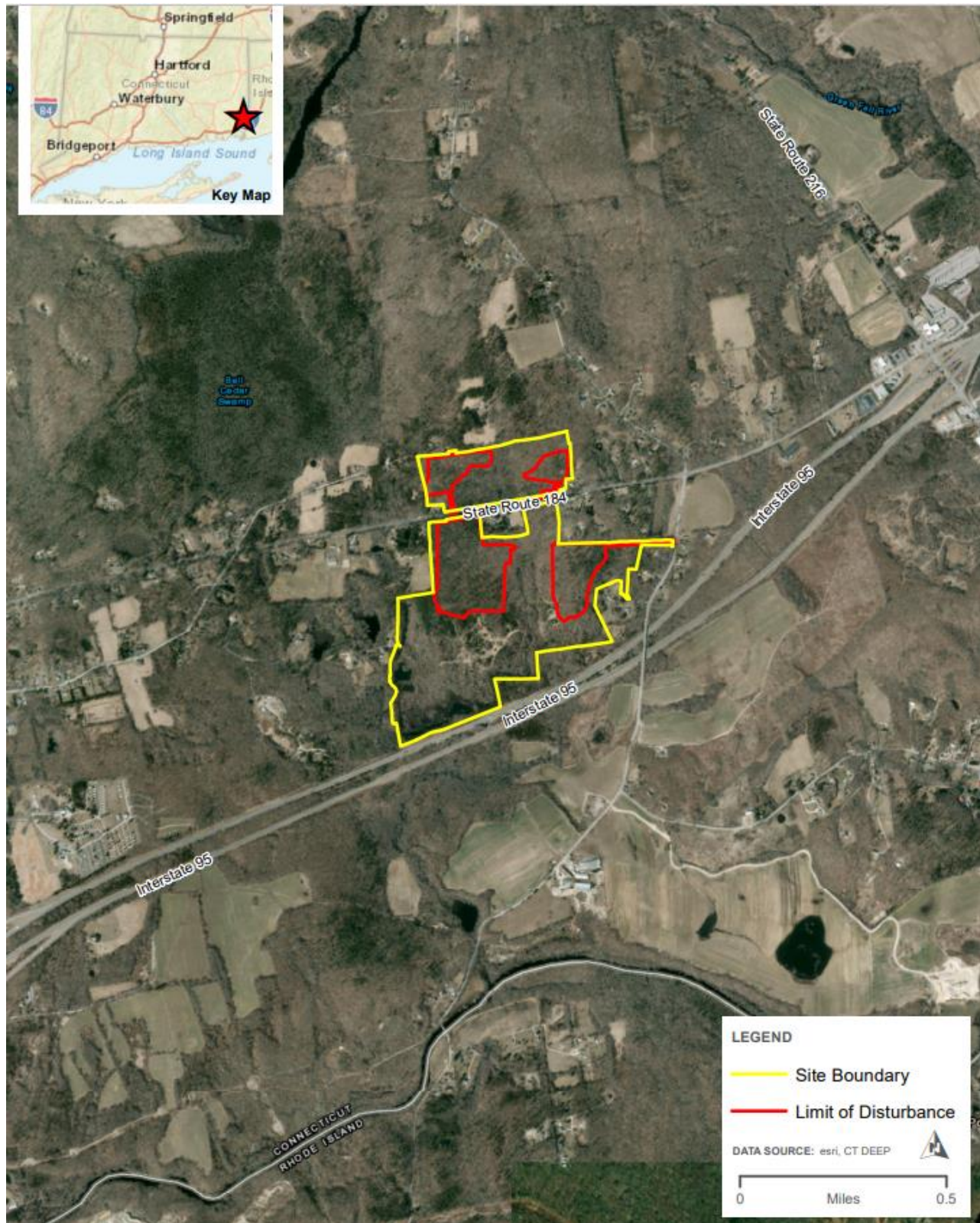
247. Under CGS § 16-50p, the Council is not obligated to take into account the status of property values. (CGS §16-50p; Tr. 4, pp. 6-7; *Westport v. Conn. Siting Council*, 47 Conn. Supp. 382 (2001), *affirmed*, 260 Conn. 266 (2002); *Goldfisher v. Conn. Siting Council*, 2005 Conn. Super. LEXIS 306 (2005), *affirmed*, 95 Conn. App. 193 (2006))
248. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a remote public comment hearing session on June 8, 2021 at 6:30 p.m. via Zoom conferencing. (Record; Tr. 2, p. 133)
249. One oral limited appearance statement was made at the remote public comment hearing session with concerns about how close the Revised Project would be to the speaker's property and the clarity of the drawings. (Tr. 2)
250. The Council received 21 written limited appearance statements regarding the project. (Record)

Figure 1 –Site Location



(SRNS 6, Attachment 6 – SWPCP)

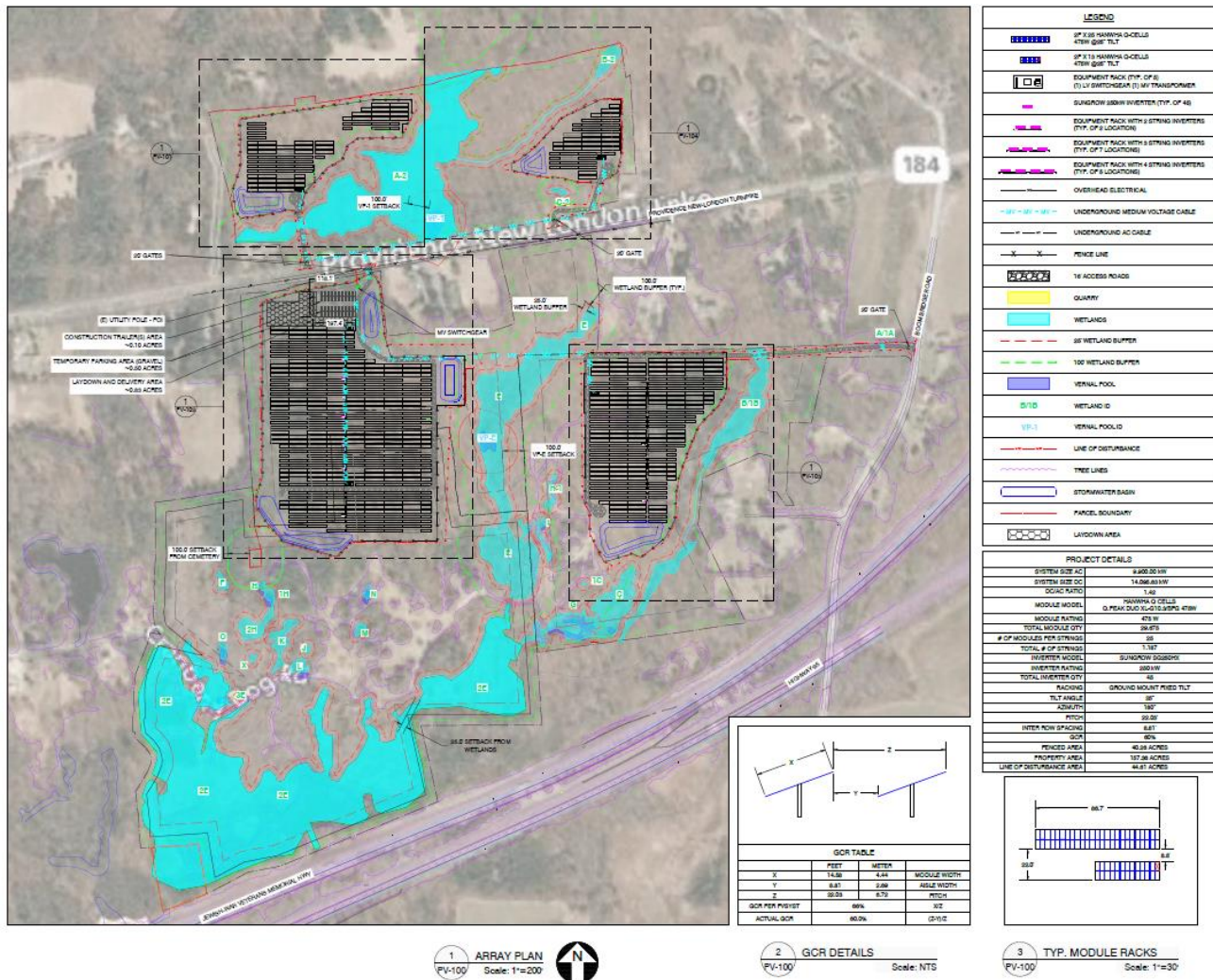
Figure 2- Existing Conditions



(SRNS 6, Attachment 6 – SWPCP)



Figure 4 – Revised Project



(SRNS 6, Attachment 4 – Drawing PV-100)