



January 10, 2020

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

RE: Petition of Bloom Energy Corporation for a Declaratory Ruling for the Location and Construction of a 300-Kilowatt Fuel Cell Customer Side Distributed Resource at 999 Meriden Waterbury Turnpike, Southington, Connecticut

Dear Attorney Bachman:

We are submitting an original and fifteen (15) copies of the above-captioned Petition, together with the filing fee of \$625.

In the Petition, Bloom Energy Corporation ("Bloom") requests the Connecticut Siting Council approve the location and construction of a 300-kilowatt fuel cell and associated equipment (the "Facility"). The Facility will be located at the Town of Southington Water Treatment Plant at 999 Meriden Waterbury Turnpike, Southington, CT (the "Site"). Electricity generated by the Facility will benefit the Town, and any excess electricity will be exported to the electric grid. The Facility will be fueled by natural gas.

Should you have any questions, concerns, or require additional information, please contact me at (860) 839-8373.

Sincerely,
Bloom Energy

A handwritten signature in black ink, appearing to read "Justin Adams".

Justin Adams
justin.adams@bloomenergy.com
(860) 839-8373

**STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL**

PETITION OF BLOOM ENERGY	:	PETITION NO. ____
CORPORATION FOR A DECLARATORY	:	
RULING FOR THE LOCATION AND	:	
CONSTRUCTION OF A 300-KILOWATT FUEL	:	
CELL CUSTOMER-SIDE DISTRIBUTED	:	
RESOURCE AT 999 MERIDEN WATERBURY	:	
TURNPIKE, SOUTHTON, CT	:	JANUARY 10, 2020

PETITION OF BLOOM ENERGY CORPORATION FOR A DECLARATORY RULING

Pursuant to Conn. Gen. Stat. §§ 4-176 and 16-50k(a) and Conn. Agencies Regs. § 16-50j-38 et seq., Bloom Energy Corporation (“Bloom”) requests that the Connecticut Siting Council (“Council”) approve by declaratory ruling the location and construction of a customer-side distributed resources project composed of two (2) ES-5 Bloom Energy Server solid oxide fuel cells and associated equipment (the “Facility”), providing 300 kilowatts (“kW”) (net) of power to the Town of Southington (“Town”) Water Treatment Plant (“WTP”) located at 999 Meriden Waterbury Turnpike, Southington, Connecticut (the “Site”). *See* Exhibits 1A and 1B. The Facility will be installed, maintained and operated by Bloom. It will be owned by a third-party financing source of Bloom under an agreement with the Town of Southington.

Conn. Gen. Stat. § 16-50k(a) provides that:

Notwithstanding the provisions of this chapter or title 16a, the council shall, in the exercise of its jurisdiction over the siting of generating facilities, approve by declaratory ruling . . . (B) the construction or location of any fuel cell, unless the council finds a substantial adverse environmental effect, or of any customer-side distributed resources project or facility ... with a capacity of not more than sixty-five megawatts, as long as such project meets air and water quality standards of the Department of Energy and Environmental Protection....



The proposed Facility will be a customer-side distributed resources facility under 65 MW that complies with the air and water quality standards of the State of Connecticut Department of Energy and Environmental Protection (“DEEP”). Bloom submits that no Certificate is required for the proposed Facility, as the installation would not have a substantial adverse environmental effect in the immediate vicinity of the Site or in the State of Connecticut.

I. COMMUNICATIONS

Correspondence and other communication regarding this petition should be directed to the following parties:

Justin Adams
Bloom Energy Corporation
4353 North First Street
San Jose, CA 95134
Telephone: (408) 543-1500
Fax: (408) 543-1501
Email: justin.adams@bloomenergy.com

Alicia Surowiec
Bloom Energy Corporation
4353 North First Street
San Jose, CA 95134
Telephone: (408) 543-1500
Fax: (408) 543-1501
Email: Alicia.Surowiec@bloomenergy.com

II. DISCUSSION

A. Project Description and Purpose

The Facility will be a 300-kW customer-side distributed resource consisting of two (2) state-of-the-art Bloom Energy Servers and associated equipment. The Facility will be interconnected to existing electrical switchgear to the north of the proposed fuel cell installation. *See Exhibits 1B and 2.*

The proposed Facility is a “customer-side distributed resources” project because it will be “a unit with a rating of not more than sixty-five megawatts [located] on the premises of an industrial end user within the transmission and distribution system including, but not limited to,

fuel cells . . .” Conn. Gen. Stat. § 16-1(a)(34)(A). Further, the Connecticut Public Utilities Regulatory Authority (“PURA”) determined that Bloom’s Energy Server qualifies as a Class I renewable energy source fuel cell as defined in Conn. Gen. Stat. §16-1(a)(20)(A). Decision, Docket No. 12-02-09, September 12, 2012.

The purpose of the proposed project is to replace the average baseload of the Site with a Class I renewable energy source, assist in achieving the Town’s sustainability goals, and improve reliability of electrical systems and equipment. The Facility has been sized to provide at least 90% of the average WTP baseload. Exhibit 3. Electricity generated by the Facility will be consumed primarily at the Site, and any excess electricity will be exported to the grid.

B. The Facility

The Facility will consist of two (2) 150-kW Bloom solid oxide fuel cell Energy Servers, one (1) model ES5-MA4AAN and one (1) model ES5-MA3AAN, and associated equipment to be located at the WTP property. As shown in Exhibit 2, the fuel cells and associated equipment will be installed in an existing paved area east of the WTP denitrification building. The associated equipment includes water deionizers, telemetry cabinets, disconnect switches and utility cabinets. The Facility is enclosed, factory-assembled and tested prior to installation on the Site. See Exhibit 3 for Bloom Energy Server Product Datasheets.

The operational life of the Facility is for the life of the 15-year contract and the solid oxide media in the fuel cells are exchanged at roughly five-year intervals. The Facility, the connections, and associated equipment will be installed in compliance with applicable building, plumbing, electrical, and fire codes. At the conclusion of the 15-year contract, the Town may renew the contract, return the Facility at no cost, or buy the Facility at a fair market value. If the



Facility is to be removed at the end of the contract or if there is a default in the contract, the Energy Servers, associated equipment and components will be dismantled and removed, the asphalt surface will remain unless requested to be removed, and the site will be restored as nearly as practicable to its effective original condition.

The Facility will be capable of producing 300 kW of continuous, reliable electric power. The Facility will interconnect to the Site's distribution system and operate in parallel with the grid to provide the Site's electrical requirements. Any electricity generated in excess of the Site's requirement will be exported to the grid in accordance with the Eversource interconnection technical requirements. This installation will not have an uninterruptible power module ("UPM") and thus will not have any means to output power in a grid independent capacity at any time. The grid-parallel output will interconnect with the utility power system at the switchgear within the existing building.

Each Energy Server is equipped with a UL-1741 listed inverter set that complies with IEEE-1547 standards for interconnection of inverter-based distributed generation. It is UL Recognized under UL Category QIKH2 and UL File Number E310552. The interconnection will be provided from an existing cabinet within the existing WTP building to the north. The interconnection application for the Facility was submitted to Eversource on December 23, 2019. The impact study agreement and cost determination are pending, and initial feedback is expected January 29, 2020. The Facility will be fueled by natural gas supplied by Eversource.

The Facility will have extensive hardware, software and operator safety control systems, designed in accordance with American National Standards Institute and Canadian Standards Association for Stationary Fuel Cell Power Systems ("ANSI/CSA"). It is Listed by UL as a

“Stationary Fuel Cell Power System” to ANSI/CSA FC1-2014 under UL Category IRGZ and UL File Number MH45102. The Facility would be controlled remotely and have internal sensors that continuously monitor system operation. If safety circuits detect a condition outside normal operating parameters, the fuel supply is stopped and individual system components are automatically shut down. A Bloom Energy Remote Monitoring Control Center (RMCC) operator can also remotely initiate any emergency sequence. An emergency stop alarm initiates an automatic shutdown sequence that puts the system into “safe mode” and causes it to stop exporting power. Bloom operators can assess different situations and take the necessary actions to mitigate impacts on the fuel cells during maintenance work, shutdowns or outages and enable them to come back online smoothly and efficiently when the disruption is completed. In addition, WTP and Town Fire Department personnel are provided with an Emergency Response Plan. Exhibit 4.

The Facility will be installed in accordance with NFPA 853¹. This standard provides fire prevention and fire protection requirements for safeguarding life and physical property associated with buildings or facilities that employ stationary fuel cell systems of all sizes. The risk of fire related to the operation of the Facility is therefore very low. Furthermore, in the Facility, natural gas is not burned; it is used in a chemical reaction to generate electricity. The natural gas is digested almost immediately upon entering the unit and is no longer combustible. As stated above, any variation in heat outside of the operational parameters will trigger an

¹ Standard for the Installation of Stationary Fuel Cell Power Systems, 2015 Edition

automatic shutdown of the energy server. Before commissioning, the fuel lines (pipe) are cleaned in accordance with Conn. Gen. Stat. Section 16-50ii².

C. Existing Environment

i. The Site

The Facility would be installed in the southeastern portion of the approximately 13.39-acre parcel at 999 Meriden Waterbury Turnpike in the Plantsville section of Southington, CT. The Site is on the north side of Meriden Waterbury Turnpike, and contains the municipal water treatment facility. The parcel is within the Residential R-20/25 zoning district, and is one of several parcels along Maxwell Noble Drive owned by the Town of Southington and developed for educational and recreational uses. Multi-unit residential development is found to the southwest of the Site and beyond the abutting municipal properties to the north, west and southeast. The closest residentially developed property is located approximately 461 feet to the southwest of the Facility.

The Facility was strategically placed to take advantage of the existing utility infrastructure at the WTP while minimizing impact on operational requirements and traffic flow within the Site.

ii. Wildlife and Habitat

A review of the publicly available Natural Diversity Database (NDDB) December 2019 data shows that a portion of the Site is within an NDDB area and other NDDB areas are within ¼ mile of the proposed Facility. Exhibit 6. A Request for NDDB State Listed Species Review was

² Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission

submitted to the Connecticut DEEP Bureau of Natural Resources Wildlife Division (CTDEEP).

A determination is pending.

iii. Wetlands and Watercourses

There are no identified natural wetlands or watercourses within the proposed location of the Facility.³ Wetlands are found in a portion of the southern perimeter of the Site and on abutting properties. The Quinnipiac River runs to the west of the Site. The Facility is located within a previously developed area and no additional clearing and minimal excavation and grading is required for its development. *See* Exhibit 7. Construction of the Facility would conform to best management practices for erosion and sedimentation (“E&S”) controls, including those provided for in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. Typical E&S control measures include, but are not limited to, straw wattles, compost filter socks, catch basin inlet protection, and/or silt fencing. Controls would be installed prior to construction.

iv. Cultural Resources

The Facility is proposed in a previously disturbed area and the construction and operation of the Facility will therefore not have a substantial adverse effect on cultural (archaeological and historical) resources.

v. Flood Zones and Aquifer Protection Area

A review of the flood hazard mapping data from Federal Emergency Management Agency’s (“FEMA”) National Flood Insurance Program (“NFIP”) has shown the Facility would be located within Zone X, an area of Minimal Flood Hazard. *See* Exhibit 8.

³ A WTP structure is depicted as being within CTDEEP wetland and watercourse areas.

The Site was also reviewed for proximity to Aquifer Protection Areas. According to GIS data provided by CTDEEP, the Site is within an Aquifer Protection Area.

D. Environmental Effects and Mitigation

i. Natural Gas Desulfurization Process

The first step in the production of electricity in a Bloom Energy server is desulfurization – the removal of the sulfur compounds that have been added to the natural gas as an odorant by the natural gas suppliers. This step occurs in the desulfurization unit (“Desulf Unit”), a canister that contains a filter made for this purpose. Sulfur is not “produced” in this process, but is separated from the natural gas in which it was contained. In this process, trace levels of sulfur oxides and other naturally occurring elements may also absorb to the filter.

The desulfurization process takes place entirely within the Desulf Unit. Because they are built to hold natural gas, their structural integrity is essential. That integrity is assured by around the clock monitoring of the Energy Servers to detect any leak. Were there a leak, the Server (including the desulfurization operation) would shut down automatically. The structural integrity and leak prevention continue after the desulfurization canisters are removed from service. At that point, the entry and exit points for the natural gas automatically seal shut. The desulfurization canister remains sealed and is not opened at the Site, or anywhere in the State of Connecticut. No gaseous substances are released or vented at any point during the desulfurization process.

The Desulf Unit contains a composite copper catalyst that includes copper. This catalyst removes non-hazardous sulfur odorants from the natural gas feedstock. The sulfur, if not removed, would rapidly and irreversibly damage the fuel cells, bringing the production of

electricity to a halt. Although the Desulf Unit is not intended to capture benzene or any other hazardous material, a small amount of benzene adheres to the adsorbent in the Unit.

The Desulf Units are periodically removed from service and replaced with Units containing fresh composite copper catalyst. Upon disconnection, the Desulf Unit automatically seals shut—to assure there is no release of natural gas. The Desulf Units are certified by the U.S. Department of Transportation (DOT) as meeting the hazardous waste shipment standards of the United Nations, DOT, IATA, ICAO and IMO Hazardous Materials Distribution and Packaging requirements.

The spent units are transported to ShoreMet, L.L.C. (ShoreMet) in Indiana, a facility where they are opened, the contents are removed and copper is used as an ingredient in various products. The Desulf Units are then cleaned, refilled, and sent back to the field for reuse.

The Indiana Department of Environmental Management (IDEM) reviewed ShoreMet's management of Bloom's spent desulfurization units. IDEM issued a letter concluding that the spent desulfurization units sent to ShoreMet are excluded from hazardous waste requirements because the contents (i.e., spent media) are used to make copper products (Code of Federal Regulation, title 40, section 261.2(e)(1)(i)). The US Environmental Protection reviewed IDEM's findings and agreed. The California Department of Toxic Substances Control (DTSC) reviewed these decisions and concluded that the Desulf Units are excluded recyclable material (ERM) under California Health and Safety Code, section 25143.2, subsection (b). There are a number of conditions that apply to this exemption; Bloom satisfies those conditions.

ii. Water, Heat and Air Emissions

The construction and operation of the Facility will comply with DEEP's air and water quality standards and will not have a substantial adverse environmental effect.

With respect to water discharges, the Facility is designed to operate without water discharge under normal operating conditions. There are no connections or discharge points to the proposed Facility. Additionally, the Facility would use no water during normal operation beyond a 192-gallon injection at start-up.

Heat generated by the proposed Facility is used internally to increase the electrical efficiency of the fuel cell system. As a result, there is no useful waste heat generated by the fuel cell. The minimal amount of thermal load present at the Site would preclude the efficient deployment of a combined heat and power application.

Conn. Agencies Regs. § 22a-174-42, which governs air emissions from new distributed generators, exempts fuel cells from air permitting requirements. Accordingly, no permits, registrations, or applications are required based on the actual emissions from the Facility.⁴ Even though the fuel cell systems are exempt from the emissions requirements, Bloom Energy fuel cells do meet the emissions standards of Section 22a-174-42. Per Section 22a-174-42(e)(1)(A) a certification by the California Air Resources Board (CARB) pursuant to Title 17, sections 94200 through 94214 of the California Code of Regulations meets the requirements of Conn. Agencies Regs. § 22a-174-42. The Bloom Energy fuel cells are certified under the CARB distributed generation program. A current list of certified applications is provided on the CARB's distributed generation certification website (<http://www.arb.ca.gov/energy/dg/eo/eo-current.htm>).

⁴ See Conn. Agencies Regs. §§ 22a-174-42(b) and (e).

The Facility will also meet state criteria thresholds for all greenhouse gases defined in Section 22a-174-1(49). Table 1 lists thresholds set by the Low and Zero Emissions Renewable Energy Credit (LREC/ZREC) program⁵, and compares them to emissions generated from the proposed Facility. By virtue of the non-combustion process the Bloom Energy fuel cells virtually eliminate NO_x, SO_x, CO, VOCs and particulate matter emissions from the energy production process. Similarly, there are no CH₄, SF₆, HFC or PFC emissions. The CH₄ is broken down in the reforming process. Reforming is the type of process where if you have sufficient catalyst, the reaction can go all the way to completion. That is the case for the Bloom Energy Server. The fuel is reformed in the hot box – with a significant excess catalyst for reaction.

Table 1: Connecticut Thresholds for Greenhouse Gases

Emission Type	Bloom Output	LREC allowance
Nitrous Oxides (NO _x)	<0.01 lbs/MWh	0.07 lbs/MWh
Carbon Monoxide (CO)	<0.05 lbs/MWh	0.10 lbs/MWh
Sulfur Oxides (SO _x)	Negligible	Not Listed
Volatile Organic Compounds (VOCs)	<0.02 lbs/MWh	0.02 lbs/MWh
Carbon Dioxide (CO ₂) ⁶	679-833 lbs/MWh	Not Listed

The proposed Facility will ultimately displace less efficient fossil fueled marginal generation on the ISO New England system. Based upon US Environmental Protection Agency (EPA) “eGrid” data, the proposed facility is expected to reduce carbon emissions by more than 25% while essentially eliminating local air pollutants like NO_x, SO_x, and particulate matter.

⁵ Sec. 16-244t

⁶ Carbon Dioxide is measured at Bloom’s stated lifetime efficiency level of 53-60%

iii. Sound Levels

The nearest parcel boundary not under common (Town of Southington) ownership is with a property located to the southwest of the host property and defined as a Class A noise zone.⁷ The results of the sound model predicting noise levels at that property boundary, located at a distance of approximately 461 feet, are provided as Exhibit 9. The proposed Facility would be defined as “Scenario 2” in the model. Scenario 2 models noise for a Bloom Energy Server installed with no structures behind it to reflect sound from either side. The results of the Scenario 2 sound model at 461 feet are 35.5 dBA, which is in compliance with noise criteria set forth in the Town of Southington noise ordinance (Chapter 300, Town of Southington Code) and the Connecticut regulations for the Control of Noise⁸. Under the Town ordinance, construction activities are allowed only between 7:00 a.m. and 8:00 p.m. Monday through Saturday and between 11:00 a.m. and 6:00 p.m. on Sunday and on holidays.

iv. Visual Effects

The visual effect of the Facility will be minimal. The Facility will be installed within the existing WTP development. In general, any off-site visibility would be minimized by distance, existing structures and mature wooded areas. The addition of the Facility is consistent with the existing development on the property.

E. Project Construction and Maintenance

Bloom anticipates construction to start in the fourth quarter of 2020 with 12-14 weeks of total construction time (4 weeks of site prep, 4 weeks of installation, and 4 weeks of commissioning).

⁷ Conn. Agencies Regs. Sec. 22a-69-2.3. Noise zone standards

⁸ Conn. Agencies Regs. Sec. 22a-69-3.5. Noise zone standards

During construction, appropriate erosion and sedimentation (E&S) controls will be installed and areas of disturbance will be promptly stabilized in order to minimize the potential for soil erosion and the flow of sediments off site. Temporary E&S control measures will be maintained and inspected throughout construction to ensure their integrity and effectiveness. The temporary E&S control measures will remain in place until the work is complete and all disturbed areas have been stabilized. No effects to drainage patterns or stormwater discharges are anticipated. Due to the limited disturbance required for the Facility's installation, no construction-related storm water permits will be required.

Soils that are generated during construction activities would not be stored or stockpiled inside of wetlands or adjacent to a watercourse, and appropriate E&S control measures would be employed and maintained for any temporary soil stockpiles. Any excavated soils compatible for reuse will be used as backfill in proximity to the same excavation area from where it originated. Any excess excavated soils not suitable for reuse would be trucked off-site and managed in accordance with applicable regulations. Rock, concrete and other debris would be removed and trucked off-site.

Areas affected by construction would be re-graded as practical and stabilized using revegetation or other measures before removing temporary E&S controls. Construction-related impacts will therefore be minimal.

III. COMMUNITY OUTREACH

Bloom has provided notice of this petition via certificate of mailing to abutting property owners and appropriate municipal officials and governmental agencies to whom notice is

required to be given pursuant to Conn. Agencies Regs. § 16-50j-40(a)⁹. A copy of the notice letter, a service list and documentation of mailing are provided in Exhibit 10 and the corresponding abutters map is provided as Exhibit 11.

A representative of Bloom contacted Mr. Robert A. Phillips, MS, AICP, Director of Planning and Community Development of the Town of Southington, and provided plans for review. Mr. Phillips indicates that there are no concerns with the proposed plans. *See* Exhibit 12.

IV. BASIS FOR GRANTING OF THE PETITION

Under Conn. Gen. Stat. § 16-50k(a), the Council is required to approve by declaratory ruling the construction or location of a customer-side distributed resources project or facility with a capacity of not more than 65 MW, as long as the facility meets DEEP air and water quality standards. The proposed Facility meets each of these criteria. The Facility is a “customer-side distributed resources” project, as defined in Conn. Gen. Stat. § 16-1(a)(34)(A), because the Facility is “a unit with a rating of not more than sixty-five megawatts [located] on the premises of a retail end user within the transmission and distribution system including, but not limited to, fuel cells” and, as demonstrated herein, will meet DEEP air and water quality standards. In addition, as demonstrated above, the construction and operation of the Facility will not have a substantial adverse environmental effect in the State of Connecticut.

⁹ Conn. Agencies Regs. § 16-50j-40(a) requires that “[p]rior to submitting a petition for a declaratory ruling to the Council, the petitioner shall, where applicable, provide notice to each person other than the petitioner appearing of record as an owner of property which abuts the proposed primary or alternative sites of the proposed facility, each person appearing of record as an owner of the property or properties on which the primary or alternative proposed facility is to be located, and the appropriate municipal officials and government agencies [listed in Section 16-50/ of the Connecticut General Statutes].”



V. CONCLUSION

For the reasons stated above, Bloom respectfully requests that the Council approve the location and construction of the Facility by declaratory ruling.

Respectfully submitted,
Bloom Energy Corporation

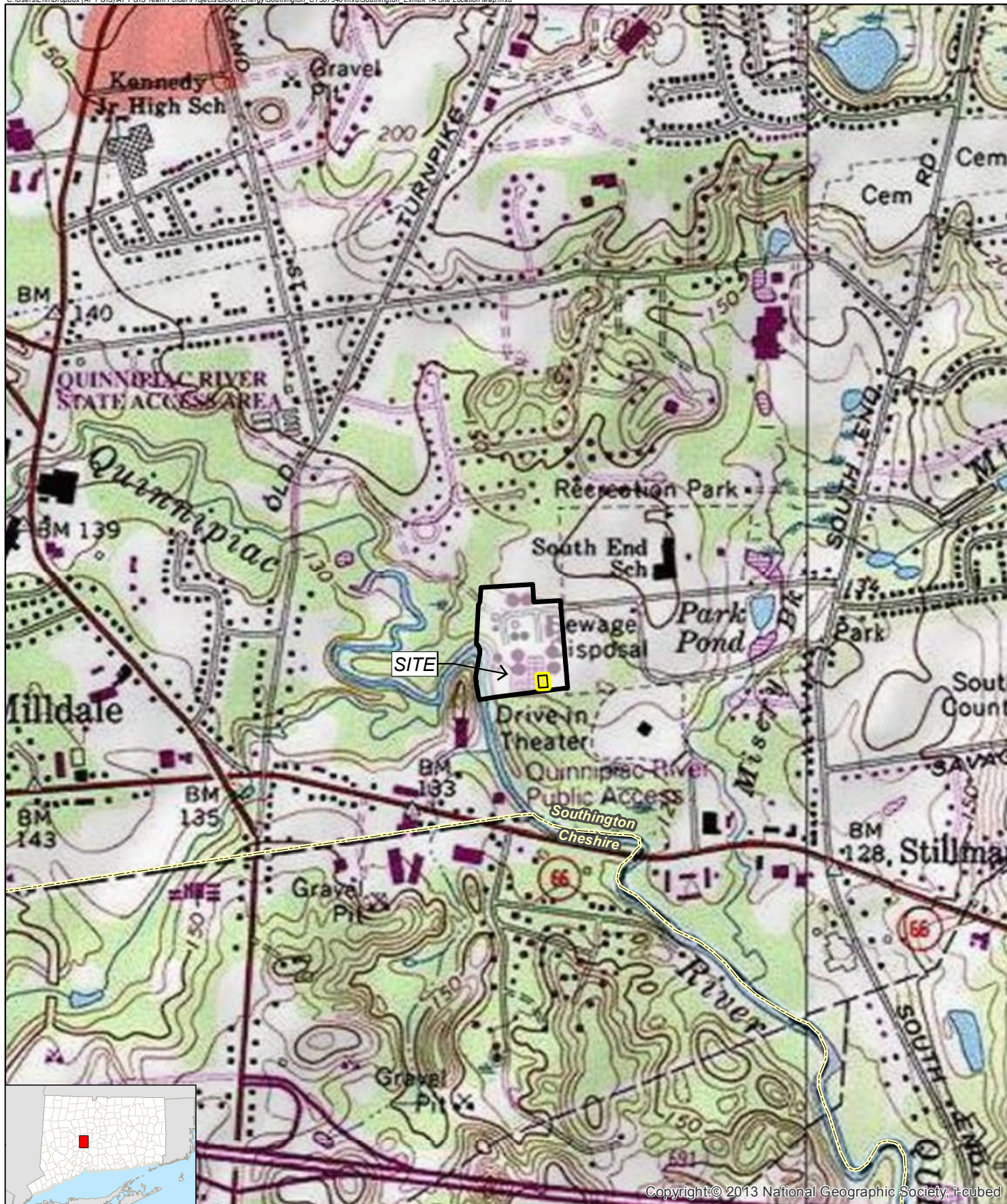
By: 

Justin Adams
Bloom Energy Corporation
4353 North First Street
San Jose, CA 95134
Telephone: (408) 543-1500
Email: justin.adams@bloomenergy.com

EXHIBITS

- Exhibit 1A: Site Location Map
- Exhibit 1B: Site Schematic
- Exhibit 2: Site and Permit Plans
- Exhibit 3: Bloom Energy Server System Background Documentation
- Exhibit 4: Emergency Response Plan
- Exhibit 5: Photos of the Proposed Location
- Exhibit 6: DEEP Coastal Boundary, Natural Diversity Data Base (NDDDB), Critical Habitats
- Exhibit 7: DEEP Wetlands and Watercourse Map
- Exhibit 8: FEMA Map
- Exhibit 9: Sound Model
- Exhibit 10: Notice Pursuant to Conn. Agencies Regs. § 16-50j-40(a)
- Exhibit 11: Abutters Map
- Exhibit 12: Municipal Consultation

Exhibit 1A



Copyright © 2013 National Geographic Society, i-cubed

Legend

- Site
- Project Location
- Municipal Boundary

Map Notes:
 Base Map Source: USGS 7.5 Minute Topographic Quadrangle Maps:
 Southington (1984), CT
 Map Scale: 1:12,000
 Map Date: January 2020



1,000 500 0 1,000
 Feet

Exhibit 1A Site Location Map

Proposed Bloom Energy Facility
 999 Meriden Waterbury Turnpike
 Plantsville, CT




Bloomenergy



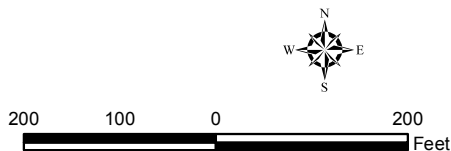
Exhibit 1B



Legend

-  Site
-  Project Location
-  Approximate Assessor Parcel Boundary (CTDEEP)

Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 200 feet
Map Date: January 2020

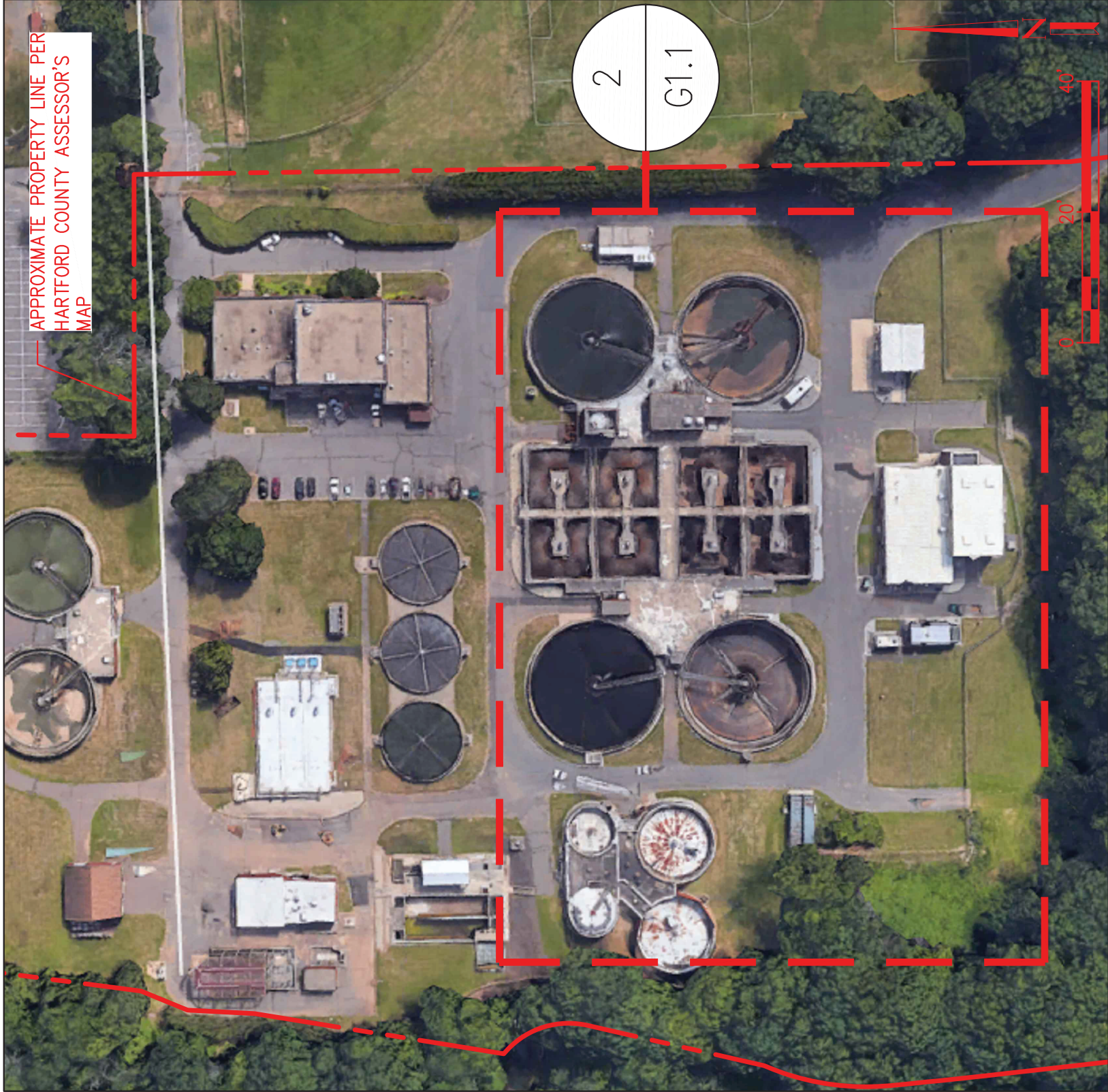


**Exhibit 1B
Site Schematic**

Proposed Bloom Energy Facility
999 Meriden Waterbury Turnpike
Plantsville, CT



Exhibit 2

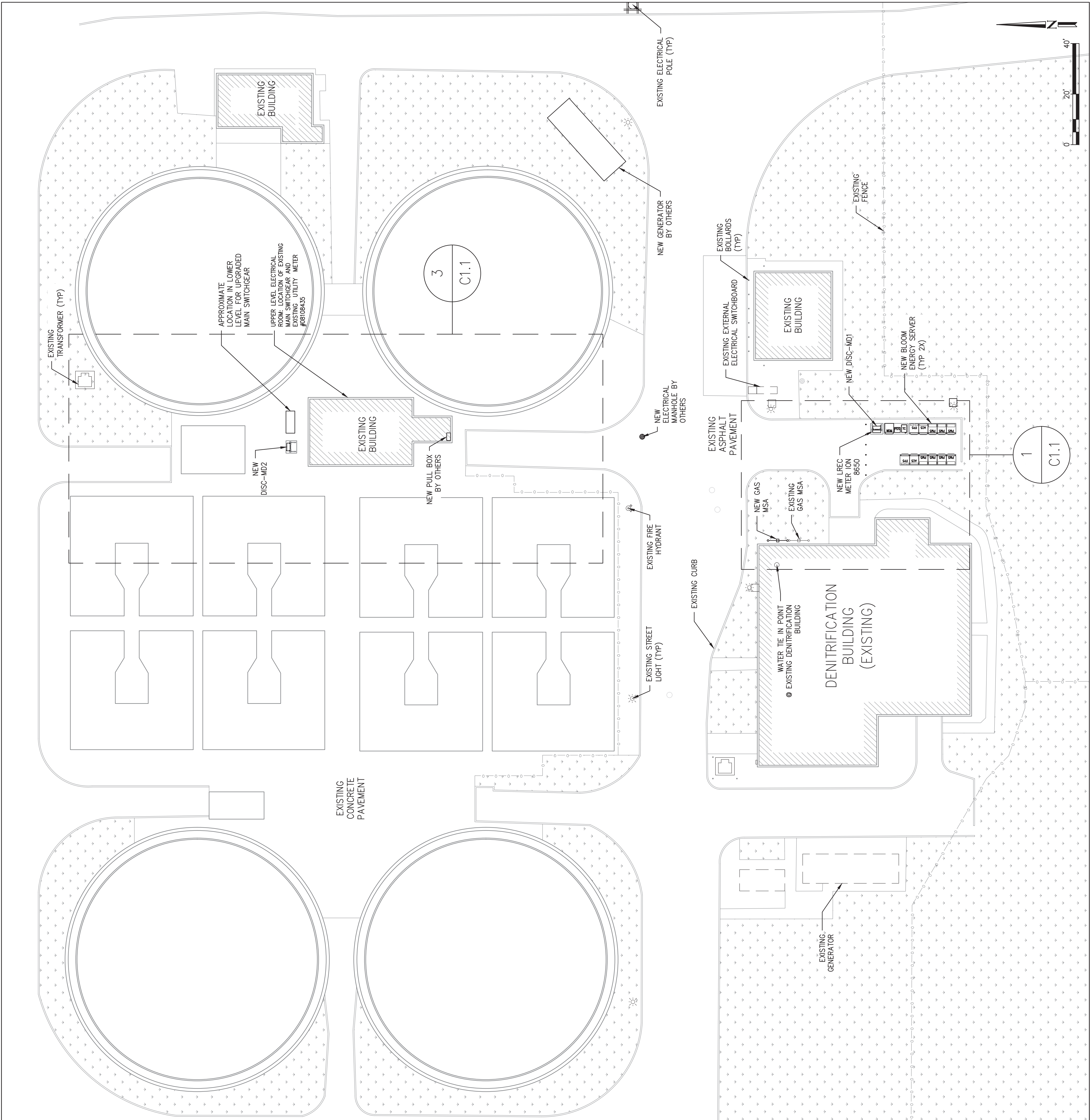
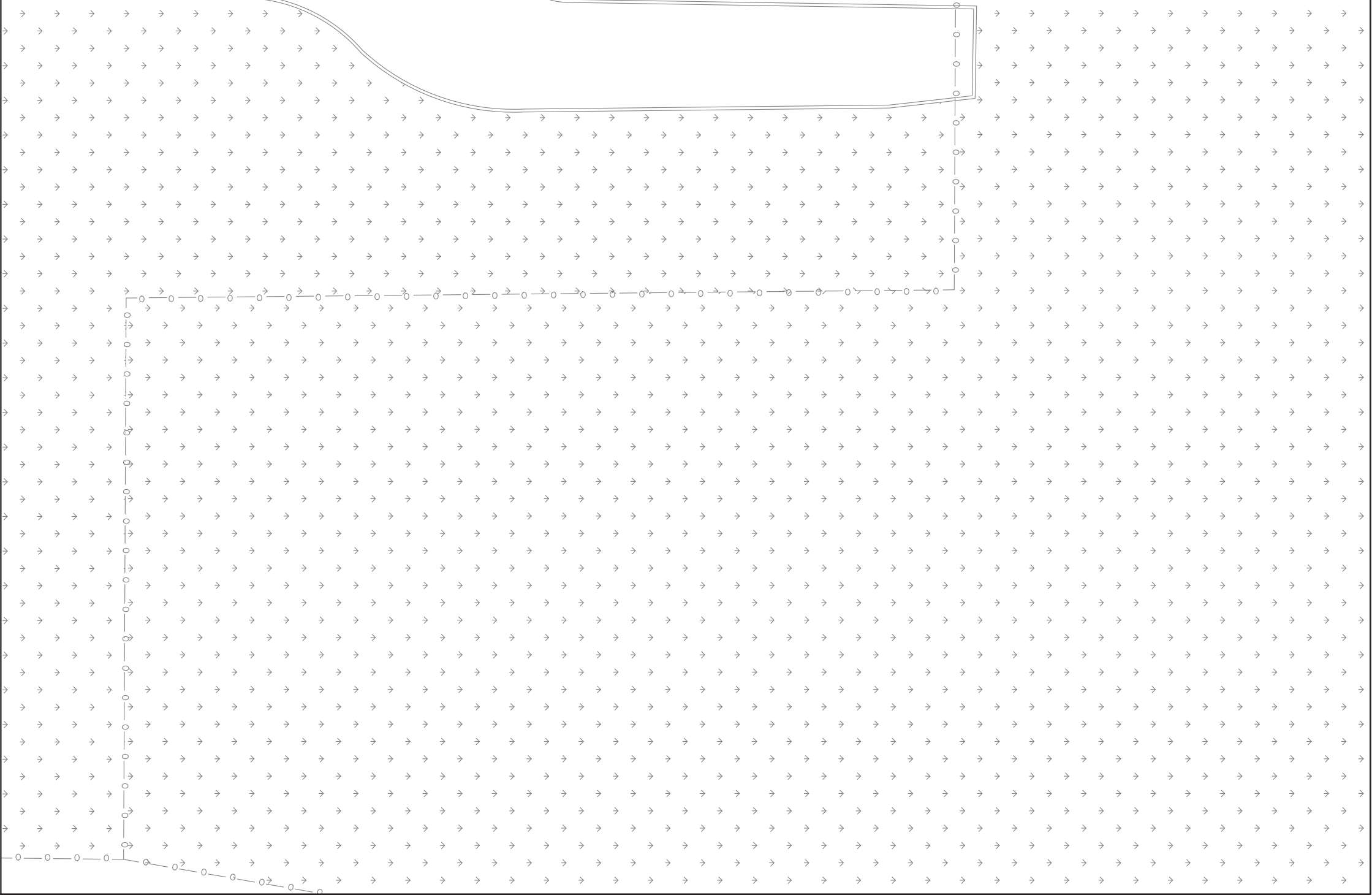


APPROXIMATE PROPERTY LINE PER
HARTFORD COUNTY ASSESSOR'S
MAP

OVERALL SITE PLAN

SCALE: 1" = 100'

1
G1.1



Bloomenergy®
4353 N. FIRST STREET
SAN JOSE, CA 95134
PROPRIETARY AND CONFIDENTIAL
BLOOM ENERGY CORPORATION ALL RIGHTS RESERVED. THIS DOCUMENT IS FOR REFERENCE ONLY AND MAY NOT BE USED WITHOUT THE WRITTEN PERMISSION OF BLOOM ENERGY. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT PERMISSION OF BLOOM ENERGY IS PROHIBITED.

CUSTOMER SITE
TOWN OF SOUTHTONING
999 MERIDEN
WATERBURY TURNPIKE
PLANTSVILLE, CT 06479



REVISION HISTORY		DATE
REV	REVISION ISSUE	
—	RELEASED PER ION-XXXX	

DESIGNED BY PARITHA JOSHI	REVIEWED BY
DRAWN BY SHASHI KUMAR	APPROVED BY

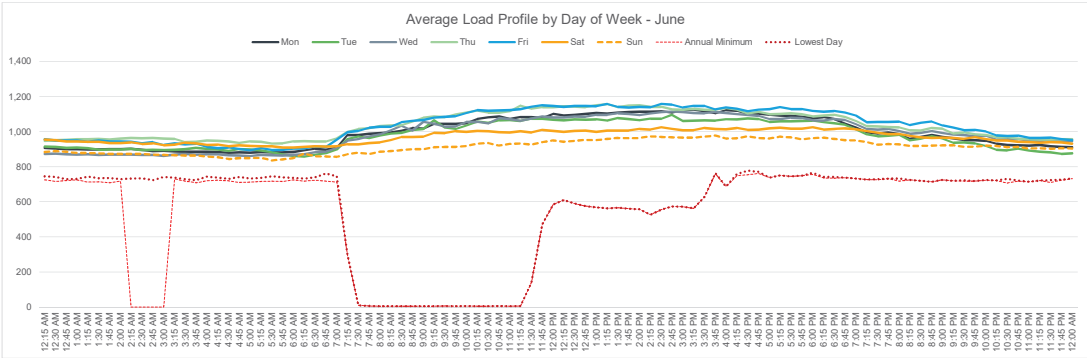
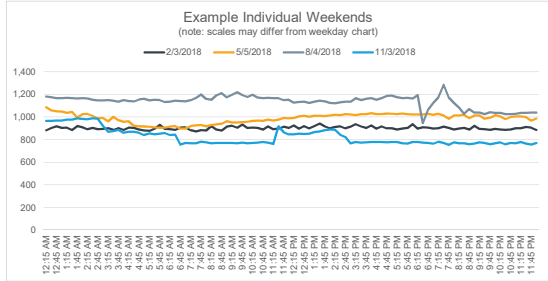
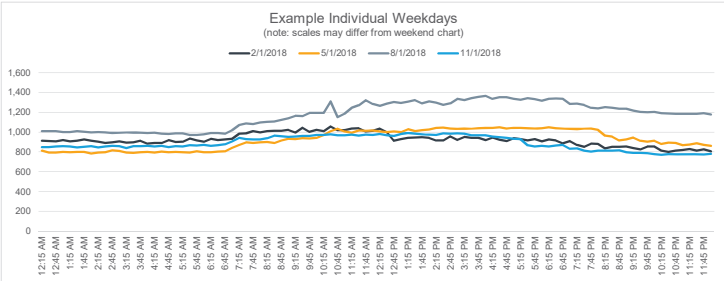
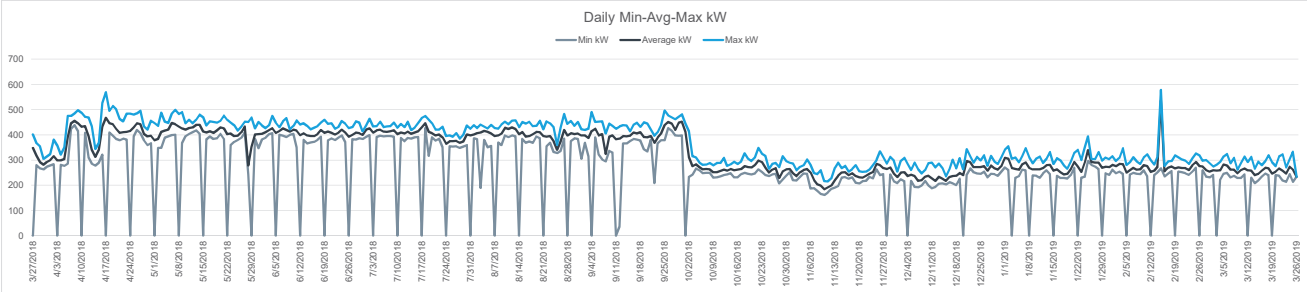
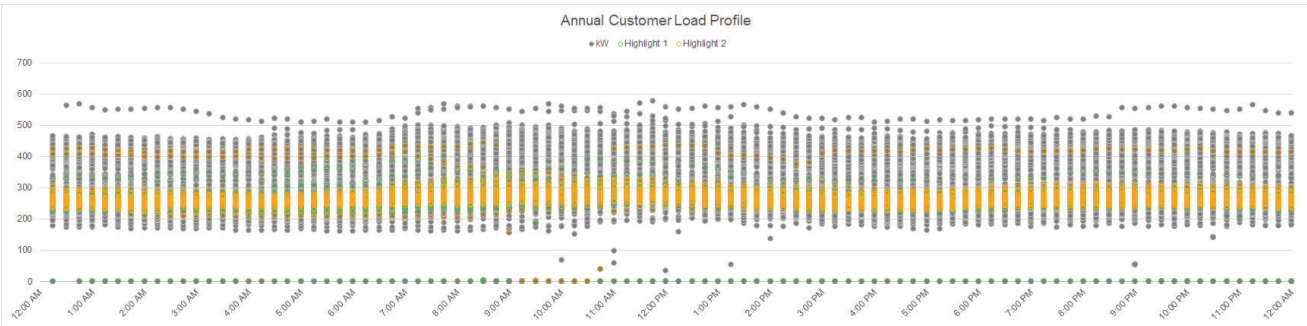
SHEET TITLE OVERALL SITE PLAN
DRAWING NUMBER G1.1

BLOOM DOCUMENT	
DOC-1012046	
THIS DRAWING IS 24" X 36" AT FULL SIZE	
SITE ID: STN000.0	SHEET 03 OF 05

Exhibit 3

INPUTS		
Customer Name	SouthingtonCT	
Site Name	999 Meriden Waterbury Tpke	
Select Utility	EVR-CT	
Enter Tariff (Include Primary, Secondary, etc)	EVR-CT 57-S	
If Other, Input Tariff		
Utility Account Number	Eversource acct 3098	
Meter Number	Meter 08108435	
DA Vintage		
Supply Rate		
Gas Utility		
NOTES		

SIZING SUMMARY		
Total Days of Complete, Non-Zero Data	363	
Annual Load Factor	93%	
Daily Load Factor	90%	
Total Customer Usage	2,906,911 kWh	
Average Hourly kW	334 kW	
Average Daily Max Demand	371 kW	
Absolute Minimum kW	0 kW	
Recurring Minimum Baseload	206 kW	
Average Baseload	304 kW	
Proposed System Size	300 kW	



Energy Server™ 5

Always On, Clean Energy
Using Patented Solid Oxide
Fuel Cell Technology



The Energy Server 5 provides combustion-free electric power with these benefits



Clean

Our systems produce near zero criteria pollutants (NO_x, SO_x, and particulate matter) and far fewer carbon emissions than legacy technologies.



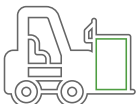
Reliable

Bloom Energy Servers are designed around a modular architecture of simple repeating elements. This enables us to generate power 24 x 7 x 365 and can be configured to eliminate the need for traditional backup power equipment.



Resilient

Our system operates at very high availability due to its fault-tolerant design and use of the robust natural gas pipeline system. Bloom Energy Servers have survived extreme weather events and other incidences and have continued providing power to our customers.



Simple Installation and Maintenance

Our Energy Servers are 'plug and play' and have been designed in compliance with a variety of safety standards. Bloom Energy manages all aspects of installation, operation and maintenance of the systems.

Energy Server 5		Technical Highlights (ES5-MA3AAN)
Outputs		
Nameplate power output (net AC)		150 kW
Load output (net AC)		150 kW
Electrical connection		480V, 3-phase, 60 Hz
Inputs		
Fuels		Natural gas, directed biogas
Input fuel pressure		10-18 psig (15 psig nominal)
Water		None during normal operation
Efficiency		
Cumulative electrical efficiency (LHV net AC) ¹		65-53%
Heat rate (HHV)		5,811-7,127 Btu/kWh
Emissions²		
NOx		0.0017 lbs/MWh
SOx		Negligible
CO		0.034 lbs/MWh
VOCs		0.0159 lbs/MWh
CO ₂ @ stated efficiency		679-833 lbs/MWh on natural gas; carbon neutral on directed biogas
Physical Attributes and Environment		
Weight		8.6 tons
Dimensions (variable layouts)		10'9" x 8'8" x 6'9" or 17'11" x 4'4" x 7'2"
Temperature range		-20° to 45° C
Humidity		0% - 100%
Seismic vibration		IBC site class D
Location		Outdoor
Noise		< 70 dBA @ 6 feet
Codes and Standards		
Complies with Rule 21 interconnection and IEEE1547 standards		
Exempt from CA Air District permitting; meets stringent CARB 2007 emissions standards		
An Energy Server is a Stationary Fuel Cell Power System. It is Listed by Underwriters Laboratories, Inc. (UL) as a 'Stationary Fuel Cell Power System' to ANSI/CSA FC1-2014 under UL Category IRGZ and UL File Number MH45102.		
Additional Notes		
Access to a secure website to monitor system performance & environmental benefits		
Remotely managed and monitored by Bloom Energy		
Capable of emergency stop based on input from the site		
¹ 65% LHV efficiency verified by ASME PTC 50 Fuel Cell Power Systems Performance Test		
² NOx and CO measured per CARB Method 100, VOCs measured as hexane by SCAQMD Method 25.3		

About Bloom Energy

Bloom Energy's mission is to make reliable, clean energy affordable for everyone in the world. The company's product, the Bloom Energy Server, delivers highly reliable and resilient, Always On electric power that is clean and sustainable. Bloom's customers include twenty-five of the Fortune 100 companies and leaders in cloud services and data centers, healthcare, retail, financial services, utilities and many other industries.

Energy Server™ 5

Always On, Clean Energy
Using Patented Solid Oxide
Fuel Cell Technology



The Energy Server 5 provides combustion-free electric power with these benefits



Clean

Our systems produce near zero criteria pollutants (NO_x, SO_x, and particulate matter) and far fewer carbon emissions than legacy technologies.



Reliable

Bloom Energy Servers are designed around a modular architecture of simple repeating elements. This enables us to generate power 24 x 7 x 365 and can be configured to eliminate the need for traditional backup power equipment.



Resilient

Our system operates at very high availability due to its fault-tolerant design and use of the robust natural gas pipeline system. Bloom Energy Servers have survived extreme weather events and other incidences and have continued providing power to our customers.



Simple Installation and Maintenance

Our Energy Servers are 'plug and play' and have been designed in compliance with a variety of safety standards. Bloom Energy manages all aspects of installation, operation and maintenance of the systems.

Energy Server 5		Technical Highlights (ES5-MA4AAN)
Outputs		
Nameplate power output (net AC)		150 kW
Load output (net AC)		150 kW
Electrical connection		480V, 3-phase, 60 Hz
Inputs		
Fuels		Natural gas, directed biogas
Input fuel pressure		10-18 psig (15 psig nominal)
Water		None during normal operation
Efficiency		
Cumulative electrical efficiency (LHV net AC) ¹		65-53%
Heat rate (HHV)		5,811-7,127 Btu/kWh
Emissions²		
NOx		0.0017 lbs/MWh
SOx		Negligible
CO		0.034 lbs/MWh
VOCs		0.0159 lbs/MWh
CO ₂ @ stated efficiency		679-833 lbs/MWh on natural gas; carbon neutral on directed biogas
Physical Attributes and Environment		
Weight		10 tons
Dimensions (variable layouts)		10'9" x 8'8" x 6'9" or 21'6" x 4'4" x 7'2"
Temperature range		-20° to 45° C
Humidity		0% - 100%
Seismic vibration		IBC site class D
Location		Outdoor
Noise		< 70 dBA @ 6 feet
Codes and Standards		
Complies with Rule 21 interconnection and IEEE1547 standards		
Exempt from CA Air District permitting; meets stringent CARB 2007 emissions standards		
An Energy Server is a Stationary Fuel Cell Power System. It is Listed by Underwriters Laboratories, Inc. (UL) as a 'Stationary Fuel Cell Power System' to ANSI/CSA FC1-2014 under UL Category IRGZ and UL File Number MH45102.		
Additional Notes		
Access to a secure website to monitor system performance & environmental benefits		
Remotely managed and monitored by Bloom Energy		
Capable of emergency stop based on input from the site		
¹ 65% LHV efficiency verified by ASME PTC 50 Fuel Cell Power Systems Performance Test		
² NOx and CO measured per CARB Method 100, VOCs measured as hexane by SCAQMD Method 25.3		

About Bloom Energy

Bloom Energy's mission is to make reliable, clean energy affordable for everyone in the world. The company's product, the Bloom Energy Server, delivers highly reliable and resilient, Always On electric power that is clean and sustainable. Bloom's customers include twenty-five of the Fortune 100 companies and leaders in cloud services and data centers, healthcare, retail, financial services, utilities and many other industries.

Bloom Energy

4353 North First Street
San Jose, CA 95134

T 408 543 1500
F 408 543 1501

info@bloomenergy.com
www.bloomenergy.com

Be

© Bloom Energy Corporation 2019. All Rights Reserved
DOC-1011835 Rev A

Exhibit 4



Fire Prevention and Emergency Planning – Grid Parallel

Copyright © 2011. Unpublished Work of Bloom Energy. All Rights Reserved. This work is an unpublished work and contains confidential, proprietary, and trade secret information of Bloom Energy. No part of this work may be practiced, performed, copied, distributed, revised, modified, translated, abridged, condensed, expanded, collected, or adapted without the prior written consent of Bloom Energy. Any use or exploitation of this work without authorization could subject the perpetrator to criminal and civil liability.

Bloom Energy Corporation, 1299 Orleans Drive, Sunnyvale, CA 94089 USA

Table of Contents

1. Fire Prevention and Emergency Planning Overview
2. Fuel Cell Installation Safety Features
3. Emergency Notification Procedures
4. Fire and Smoke Procedures
5. Medical Emergency Procedures
6. Materials Release Procedures
7. Natural Disasters and Severe Weather
 - 7.1 Earthquake
 - 7.2 Flood
8. Utility Outage
9. Good Housekeeping and Maintenance
 - 9.1 Good Housekeeping
 - 9.2 Maintenance
10. Training

1. FIRE PREVENTION AND EMERGENCY PLANNING OVERVIEW

The following document is provided only as a guide to assist you in complying with national and local codes and requirements, as well as to provide other helpful information. It is not intended to supersede the requirements of any standard. You should review the standards for particular requirements that are applicable to your individual situation, and make adjustments to this program that are specific to your company. You will need to add information relevant to your facility in order to develop an effective, comprehensive program.

2. FUEL CELL SYSTEM INSTALLATION SAFETY FEATURES

The fuel cell system has redundant safety features and in-system checks to ensure that the system will not harm certified technicians or bystanders near the unit. While the actual fuel cells operate at high temperatures, these components do not move, and are contained within many layers of insulation. During normal operation, the unit is cool to the touch and operates quietly.

The fuel cell system is controlled electronically and has internal sensors that continuously measure system operation. If safety circuits detect a condition outside normal operating parameters, the fuel supply is stopped and individual system components are automatically shut down. A Bloom Energy Remote Monitoring and Control Center (RMCC) operator can also remotely initiate any emergency sequence. An Emergency Stop alarm condition initiates an automatic shutdown sequence that puts the fuel cell system into —safe mode and causes it to stop exporting power. If you have questions about any of these safety features, please contact Bloom Energy.

If you have to shut down your fuel cell system right away—for example, in case of a building fire or electrical hazard—three shutoff controls are installed at your facility external to the system. The locations of these three controls should be known to your facilities manager before operation, and should be noted on your facility diagram that you created with your Bloom Energy account manager. The three shutoffs are the **EPO button**, the **electrical disconnect**, and the **natural gas shutoff valve**.

- An **Emergency Power Off (EPO) Button** cuts all power to all systems and stops them from exporting power to your building. All natural gas flow is also stopped within the systems. (The EPO button is on the front/side of the EDM, if an EDM is installed.) Lift the protective cover and break the glass seal that covers the button with the attached hammer. After the glass seal is broken, the shutdown sequence will automatically begin.



Figure 1: Emergency Power Off Button

- An **electrical disconnect** manually disconnects systems from the grid if needed. Pressing the EPO button should already stop any power transmission, but it does not hurt the systems to also open this disconnect if you believe it is needed. The location of this disconnect will vary, however it is typically located near the point of interconnection where the wires from the fuel cell installation meet the facility's electrical framework. This may be inside your facility's electrical room, or if the fuel cell installation is near the electrical room, it may be found within the switchgear that Bloom Energy installs. This location of this disconnect is shown on the Site Map (see below) and is labeled "(name of electrical utility) Lockable Visible Generator Disconnect Switch".



Figure 2: Electrical Disconnect

- A **manual natural gas valve** shuts down all natural gas to the system. If the valve operator is perpendicular to the pipe, the valve is shut. If it is parallel with the pipe, the valve is open.



Figure 3: Manual Natural Gas Valve

Site map:

- An overhead site map showing the location of all safety features will be posted throughout the fuel cell installation
- Electronic copies are available to you for use in your site planning

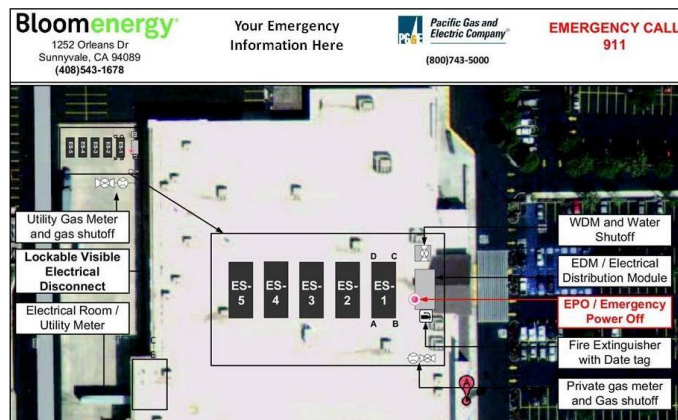


Figure 4: Sample Site Map

Manual controls:

- Clearly marked emergency stop button labeled —Fuel Cell Emergency Shut Down located at site
- Two manual fuel shutoff valves outside the system, and two isolation valves inside the system

Fire hazard mitigation:

- System is plumbed directly to utility-provided natural gas
- If system input gas pressure is compromised, a pressure switch triggers an emergency system shutdown and fuel input is isolated
- System does not use fuel compressors or pumps
- System has virtually no stored fuel (internal capacity is < 5 scf)

Electrical hazard and mitigation:

- System operates at 480V
- Signs inside the system warn of the risk of electric shock
- System has backfeed protection
- System inverter prevents grid backfeed during a power outage

Mechanical hazard and mitigation:

- Finger/hand guard protection is provided on all fans
- All moving parts are located behind secured doors

Material hazard mitigation:

- Desulfurizer bed (to remove fuel impurities) are fully enclosed
- Maintained and serviced by licensed vendors

3. EMERGENCY NOTIFICATION PROCEDURES

Life-Threatening Emergencies

To report life-threatening emergencies, immediately call:

Fire:	911
Ambulance:	911
Police:	911

Conditions that require automatic emergency notification include:

- Unconscious Victim
- Seizure
- Major Trauma
- Chest Pains
- Difficulty Breathing
- Flames

Non-Life-Threatening Emergencies

For non-life-threatening emergencies, report the incident to the local safety control center.

When you report an emergency, give the following information:

- Exact nature of the emergency (describe as clearly and accurately as possible).
- Exact location (i.e., address, building, floor, area, department, etc.).
- Telephone number from which you are calling.
- Your full name.
- ***Do not hang up***, as additional information may be needed.

To assist in any subsequent investigation or determination of corrective actions, it is recommended to record the following items as close to the incident time as possible:

- Summary of any violation

- Identification of responsible parties
- Identification of victims and witnesses
- Description of evidence
- Description of general conditions
- Description of any vehicles involved
- Narratives from witnesses
- Any photographs

4. FIRE OR SMOKE PROCEDURES

This section describes the procedures involving a fire or smoke. A major fire is one that requires the use of more than one fire extinguisher or takes more than one minute to extinguish.

If you discover a fire or smoke:

1. Activate the nearest fire alarm if not activated already.
2. Activate the fuel cell Emergency Stop if possible.
3. Shut off the fuel cell installation natural gas line if possible.
4. If the fire is small and does not pose an immediate risk to personal safety, you may attempt to extinguish it with a portable fire extinguisher **only if trained to do so**.
5. Avoid using water on electrical fires.
6. Report every fire, regardless of size, immediately. Smoke or the smell of smoke should be reported.
 - From a safe location dial **911**.
 - Report the incident to the local security safety center.

5. MEDICAL EMERGENCY PROCEDURES

This section describes the necessary procedures for injuries or illnesses that may occur under extreme conditions.

A serious injury can be life-threatening and will require immediate medical attention. Injuries can include head injuries, spine injuries, broken bones, heart attack, stroke, loss of consciousness, excessive bleeding, chemical exposure, etc.

A non-serious injury is not immediately life-threatening but may still require the attention of a medical doctor. These can include headaches, nausea, itching, cuts, burns, etc.

Life-Threatening Medical Emergency

1. Remain calm.
2. Immediately dial 911.
3. Report the incident to local security safety center.
4. Do not move the victim unless it is absolutely necessary.
5. Call out for personnel trained in first aid and/or CPR which may include Building Evacuation or Emergency Response team members.

6. Ask someone to bring the area first aid kit and Automated External Defibrillator.
7. Assist if capable or asked to do so.

Non-Life-Threatening Medical Emergency

1. Remain calm.
2. Report the incident to the local security safety center.
3. Do not move the victim unless it is absolutely necessary.
4. Call out for personnel trained in first aid.
5. Ask someone to bring the area first aid kit.
6. If the victim requires further medical attention, then direct them to the nearest approved medical clinic or hospital – Contact Security or Human Resources for assistance if needed.
7. The injured employee's supervisor/manager is responsible for ensuring injury forms are properly filled out. Complete the forms within 24 hours of incident and submit to the injury reporting system for follow-up. Follow company protocols.

6. MATERIALS RELEASE PROCEDURES

The fuel cell system does not pose a hazard to health or environment. However, some internal materials when released, may pose a irritation risk to people and a possible risk of fire if not properly handled. This section was designed to address potential material release events:

In case of a material release that poses a direct threat to health, safety, or the environment:

1. Report the incident to local safety/security office.
2. If extremely life-threatening immediately dial **911** followed with a call to Security.
3. Contain the spill.
4. Evacuate the area or building if the material release is determined to be life-threatening.

In the event of an unknown indoor smell or odor, report the incident to authorities responsible for HAZMAT and spills.

7. NATURAL DISASTERS AND SEVERE WEATHER

7.1 Earthquake

This section provides information and procedures for earthquake emergencies.

The fuel cell system is designed to automatically shut off if the natural gas supply is compromised.

The natural gas supply line has an external, manual shut-off valve that should be activated if it is safe to do so. This valve will be labeled, "Notice – Fuel Cell Gas Shut

Off". The natural gas line will be labeled with the word "gas" on a yellow background with an arrow pointing in the direction of flow.

The nearby Emergency Stop can be activated to stop the flow of fuel and power to/from the fuel cell system.

A Bloom Energy Field Engineer will validate site safety and system operation during/after severe weather as necessary.

7.2 Flood

The fuel cell system support pad is designed to divert water flow. However, if flooding conditions exist, or threaten to exist due to heavy rainfall, creek bank overflows, or pipe breakage, then immediately report the incident to the local safety/security office.

Do not use the fuel cell power system if any part has been under water. If it is safe to reach the Emergency Power Off button for the site without entering the water, stop all systems until a Bloom Energy representative can assess the site.

Precautions to follow after a flood:

- Stay out of flooded areas. Flooded areas remain unsafe. Entering a flooded area places you at risk.
- Notify Bloom Energy. A Bloom Energy Field Engineer will validate site safety and system operation during/after severe weather as necessary

8. UTILITY OUTAGE

The fuel cell system is operated in "Grid-Parallel" mode. If utility provided power is lost for any reason, the fuel cell system will go "off-line". The fuel cell system will remain in stand-by mode until it automatically senses the utility grid has been restored. If utility gas is shut down, the fuel cell system will begin to shut down completely.

The Bloom Energy Remote Monitoring Control Centers monitor the fuel cells 24 hours per day and will be alerted to utility grid interruptions via its controls software. A Field Service Engineer will be dispatched to restart the fuel cell system if necessary. Customer personnel should NOT attempt to start up or operate the fuel cell system.

Before a Planned Outage

- Notify the Bloom Energy Remote Monitoring Control Center at 1-408-543-1678 at least 24 hours before planned outage.
- Bloom Energy Remote Monitoring Engineers will reduce power generated by the fuel cell system and take the fuel cell off-line.
- Abrupt fuel cell system shutdowns may cause significant system damage.

During a Utility Power Loss

- The fuel cell system will automatically go off-line.
- The Bloom Energy Remote Monitoring Control Centers will monitor the fuel cell system.
- Bloom Energy Field Service will be dispatched to start up the fuel cell system as necessary.
- If the fuel cell system has been automatically shut down and utility power is restored, there will be no impact to building power delivery: primary power will come from the utility rather than the fuel cells.

9. GOOD HOUSEKEEPING AND MAINTENANCE

9.1 Good Housekeeping

Although extremely unlikely, to minimize the risk of fire and any incidents, Facility Managers should take the following precautions around the fuel cell installation:

- What to do if you smell gas:
 - Do not try to light any appliance
 - Do not touch any electrical switch; do not use any phone in the area
 - Leave the area immediately
 - Immediately call your gas supplier. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department
- Notify Bloom Energy Remote Monitoring Control Center at 1-408-543-1678 of any condition that would impair the safety of the fuel cell installation so that mitigation measures could be determined and placed into effect.
- Prohibit smoking within the area of the fuel cell installation. Bloom Energy will furnish No Smoking signs for the area.
- Ensure only Bloom Energy Service Providers are permitted access inside the system.
- Keep the area around the fuel cell installation clear for ten feet in all directions, for safety and ease of maintenance.
- Keep the area around the fuel cell power system clear and free of combustible materials, gasoline, and other flammable vapors and liquids.
- Shut the system down and call Bloom Energy immediately if you suspect a fuel line rupture.
- **Never enclose an operating system** in a tarp, tent, shed, or other structure that would allow air to become trapped. This system runs on natural gas, and produces trace amounts of CO and CO₂. The amounts of these gases are safe for normal outdoor operation but could gather in an enclosed place.
- Do not block or obstruct air openings on the fuel cell power system. This system requires air flow in order to operate.

- Do not use this fuel cell power system if any part has been under water. Immediately call qualified service personnel to inspect the fuel cell power system and to replace any functional part which has been under water.
- Please contact Bloom Energy at 408-543-1678 with as much advance notice as possible if you plan, detect, or suspect a prolonged Internet outage.
- The Bloom Energy Field Service team will periodically clean the equipment; do not spray with pressurized hoses.

9.2 Maintenance

Your site has specific Field Service personnel assigned to it for both routine maintenance and troubleshooting. Your site project manager will introduce you to the designated Bloom Energy Field Service team assigned to your site prior to operation.

Bloom Energy Field Service personnel are trained in state Safety Law. They are trained in all the procedures required for the fuel cell installation, and their toolkit includes all the safety equipment required to work around the fuel components and high voltage in our system (480VAC).

Bloom Energy also requires its employees to follow all necessary safety precautions, including:

- Every time a Field Service technician arrives at a site for the first time and opens a service panel, the technician will use a leak detector to determine whether there is any gas buildup in the system and determine that it is safe to work on it.
- Whenever a Field Service technician is removing and replacing a component on a fuel or exhaust line, the technician must keep a CO detector nearby to make sure that no CO is present in the line even after the system has been shut down.

The Field Service team expects to conduct quarterly and yearly preventative maintenance for certain types of consumable or cleanable components such as replacement of air filters, water filters, and desulfurizer beds. Other maintenance will be performed as required. During such times, inspections for any hazards will be conducted including quarterly fire extinguisher inspection (if applicable).

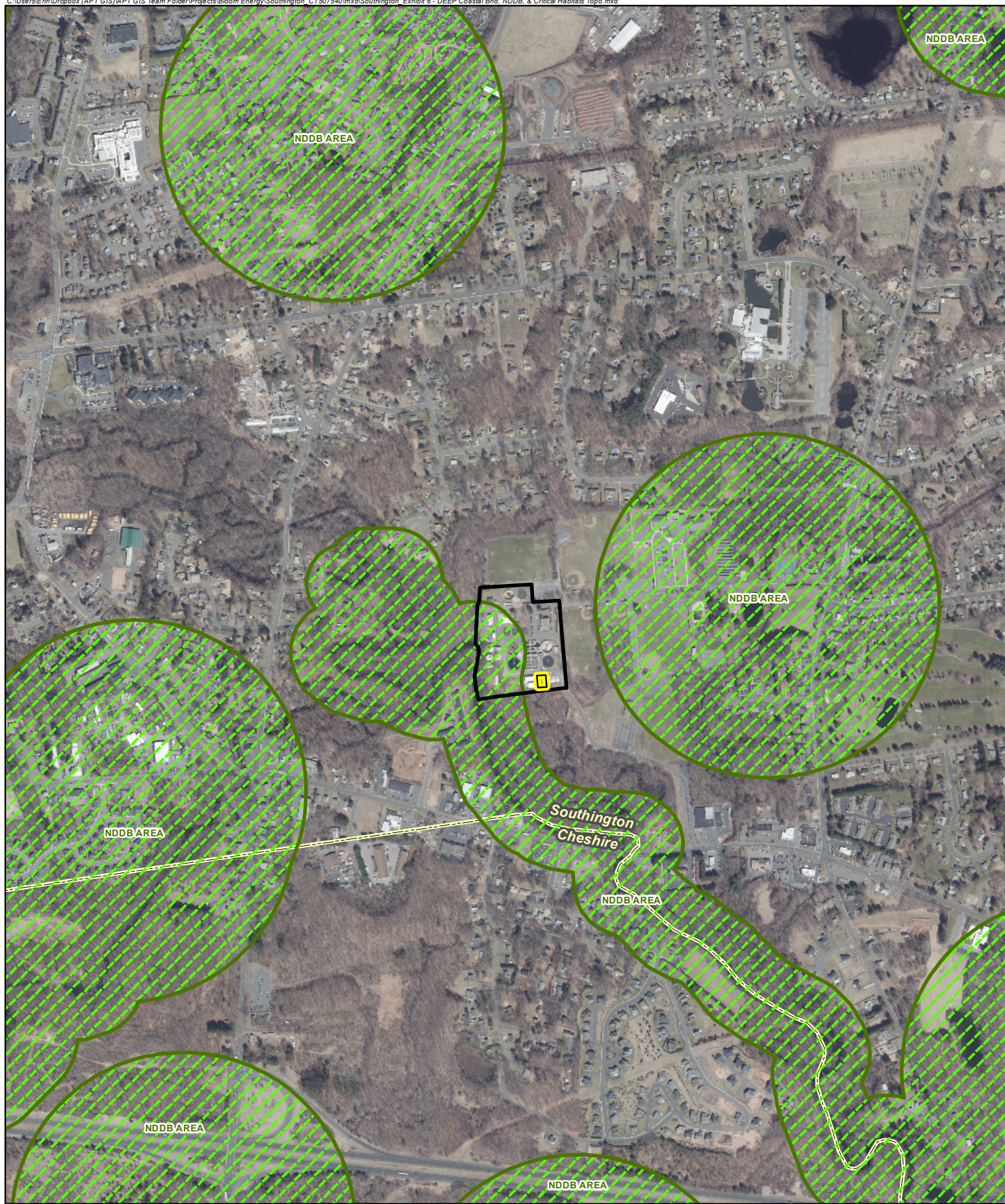
10. TRAINING

Prior to system startup, a Bloom Energy representative will provide training on the fuel cell installation to include the location and operation of safety features as well as actions to take during emergencies. We desire this training to provide lasting value and are more than happy to work with you to customize the experience to suit your needs.

Exhibit 5



Exhibit 6



Legend

- Site
- Project Location
- Municipal Boundary
- Nddb Area (Dec. 2019)
- CTDEEP Critical Habitat (2009) (none in mapped extent)
- CTDEEP NE Cottontail Final Focus Area (none in mapped extent)
- CTDEEP Coastal Boundary (none in mapped extent)

Map Notes:
 Base Map Source: 2019 Aerial Photograph (CTECO)
 Map Scale: 1 inch = 1,000 feet
 Map Date: January 2020

1,000 500 0 1,000
 Feet



Exhibit 6
CTDEEP Coastal Boundary, Nddb,
& Critical Habitats
 Proposed Bloom Energy Facility
 999 Meriden Waterbury Turnpike
 Plantsville, CT



Exhibit 7



Legend

- Site
- Project Location
- Approximate Assessor Parcel Boundary (CTDEEP)
- Municipal Boundary
- CTDEEP Watercourse
- CTDEEP Waterbody
- CTDEEP Wetlands



Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 200 feet
Map Date: January 2020

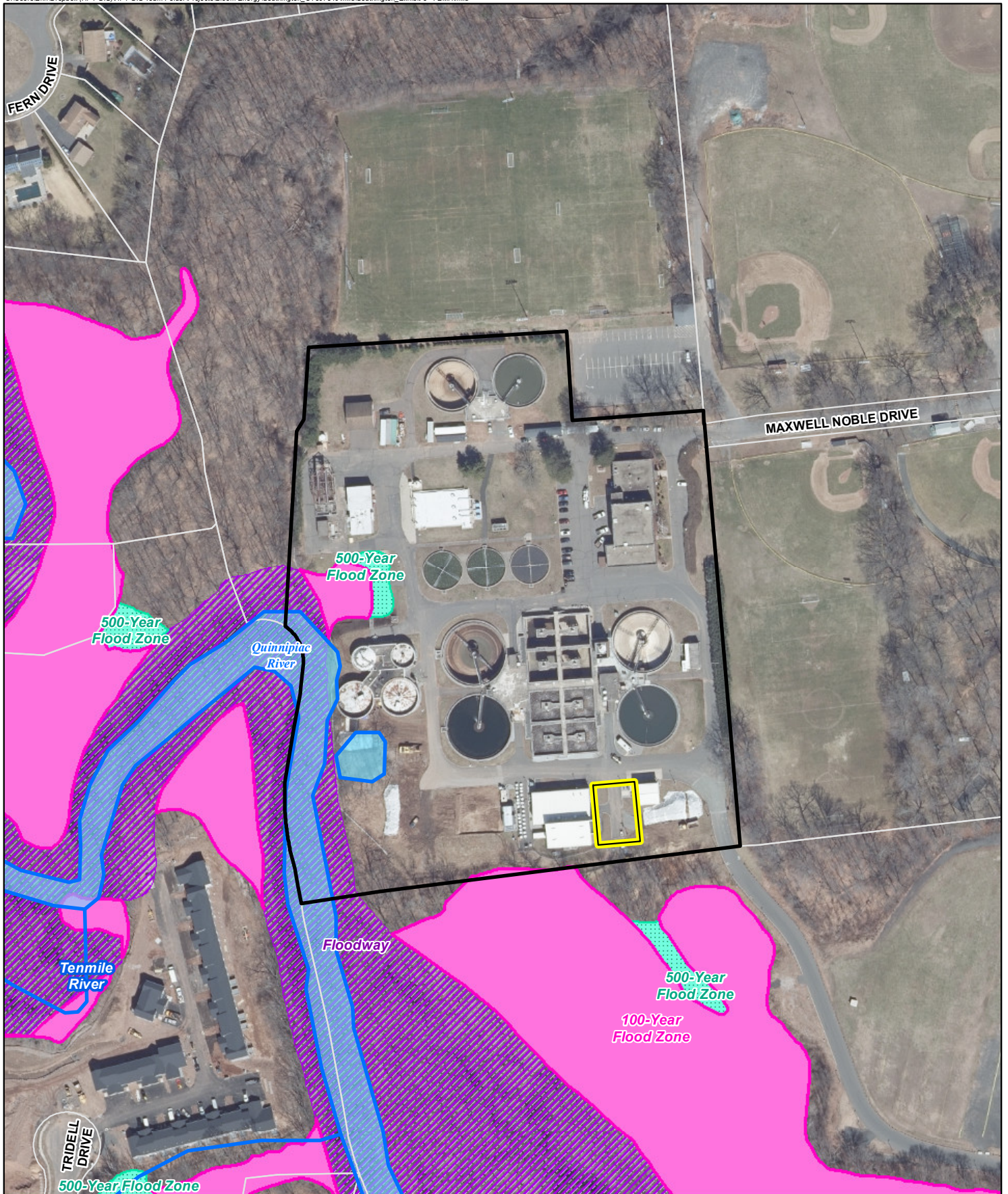
200 100 0 200
Feet

Exhibit 7 CTDEEP Wetland and Watercourses

Proposed Bloom Energy Facility
999 Meriden Waterbury Turnpike
Plantsville, CT



Exhibit 8



Legend

- Site
- Project Location
- Approximate Assessor Parcel Boundary (CTDEEP)
- Municipal Boundary
- CTDEEP Watercourse
- CTDEEP Waterbody
- FEMA Flood Zones**
 - 100-Year Flood Zone
 - 500-Year Flood Zone
 - Floodway

Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 200 feet
Map Date: January 2020

200 100 0 200
Feet



Exhibit 8 FEMA Flood Zones

Proposed Bloom Energy Facility
999 Meriden Waterbury Turnpike
Plantsville, CT



Exhibit 9

Calculation of Yuma Sound Pressure Based On Distance

By Bob Hintz 1/16

All calculations are based on the following formula for sound pressure level (L_p):

$$L_p = L_w - 10 \cdot \log \left(\frac{Q}{4\pi \cdot r^2} \right) |$$

Sound power value (L_w) attained from V1 Yuma linear in DE reported on Feb. 4, 2015 by Mei Wu.

Scenario 1

ES is installed close to a building or tall wall so noise from the ES is reflected off of the structure and added to the noise from the other side of the ES making it sound louder than normal. This is represented by a directivity factor Q = 4

L_p = 38.5 dB

Where:

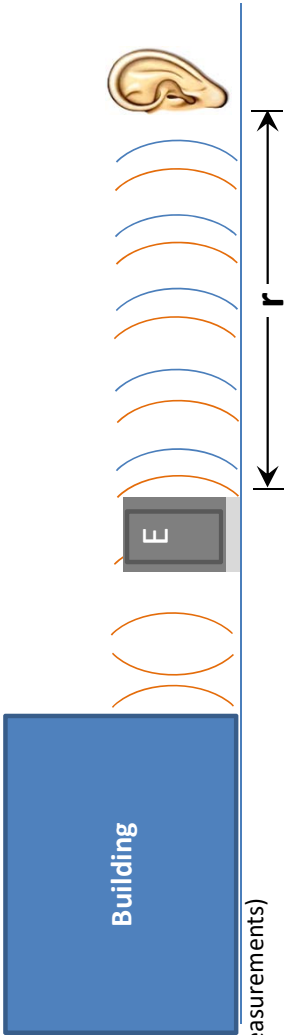
L _w =	86.4 dB
Q =	4
r =	<input type="text" value="461"/> Feet

ES sound power (Calc. from measurements)

Directivity factor

Enter value here for both Scenarios

Input various values for r to approximate the perceived sound pressure at that distance from the ES door



Scenario 2

ES is installed with no structures behind it to reflect sound from either side. This is represented by a directivity factor Q = 2

L_p = 35.5 dB

Where:

L _w =	86.4 dB
Q =	2
r =	<input type="text" value="461"/> Feet

ES sound power (Calc.)

Directivity factor

Input various values for r to approximate the perceived sound pressure at that distance from the ES door

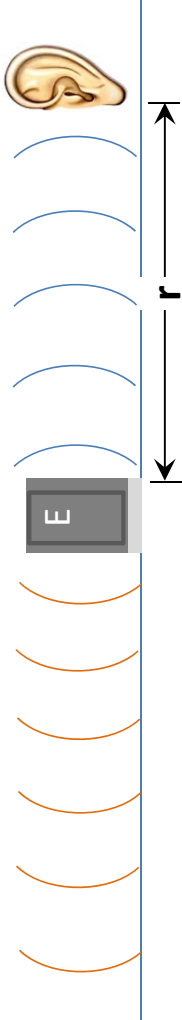


Exhibit 10



VIA CERTIFICATE OF MAILING

January 3, 2020

RE: Application of Bloom Energy for the location and construction of two (2) new ES-5 Bloom Energy Server solid oxide fuel cells to provide 300 Kilowatts of Customer-Side Distributed Resource at 999 Meriden Waterbury Turnpike, Southington, Connecticut

Dear Ladies and Gentlemen:

Pursuant to Section §16-50j-40 of the Connecticut Siting Council's (the "Council") regulations, we are notifying you that Bloom Energy intends to file, on or about January 9, 2020, a petition for declaratory ruling with the Council. The petition will request the Council's approval of the location and construction of a 300-kilowatt (KW) fuel cell installation and associated equipment. The Facility will be located at the Town of Southington Water Treatment Plant at 999 Meriden Waterbury Turnpike in the Plantsville section of Southington, Connecticut (the "Site").

The purpose of the proposed Facility is to replace the average baseload of the Water Treatment Plant's operations at that location with a renewable energy source¹ and improve reliability of electrical systems and equipment. Electricity generated by the Facility will be consumed primarily at the Site, and any excess electricity will be exported to the electric grid. The Facility will be fueled by natural gas.

Keeping the lines of communication open is an important part of our work in your community. If you have questions about this work, please contact the undersigned or the Council.

Respectfully,



Justin Adams
justin.adams@bloomenergy.com

Be

¹Connecticut General Statutes §16-1(a)(26)(A) identifies fuel cells as a "Class I renewable energy source"

Notice and Service List Pursuant to Conn. Agencies Regs. § 16-50j-40(a)

Municipal and Elected Officials

Last Name	First Name	Title	Address	City	State	Postal Code
Sciota	Mark	Town Manager, Town of Southington	75 Main Street	Southington	CT	06489
Triano	Victoria	Chairwoman, Southington Town Council	75 Main Street	Southington	CT	06489
Hammersley	Robert	Chair, Planning & Zoning Commission	196 N. Main Street	Southington	CT	06489
Byrne	David	Chair, Conservation Commission	196 N. Main Street	Southington	CT	06489
Phillips	Robert A	MS, MPA, AICP Director of Planning and Community Development	196 N. Main Street	Southington	CT	06489
Kimball	Sean M	Town Manager, Town of Cheshire	84 South Main Street	Southington	CT	06489
Voelker	William S	Town Planner	84 South Main Street	Southington	CT	06489
Simone	Suzanne	Environmental Planner	84 South Main Street	Southington	CT	06489
Strollo	Michael J	Wetlands Agent	84 South Main Street	Southington	CT	06489
Oris, Jr.	Rob	Chairman, Cheshire Town Council	84 South Main Street	Southington	CT	06489
Kurtz, III	Earl J	Chairman, Planning & Zoning Commission	84 South Main Street	Southington	CT	06489
DeJongh	Robert	Chairman, Inland Wetlands & Watercourses Commission	84 South Main Street	Southington	CT	06489
Blumenthal	Richard	U.S. Senator	702 Hart Senate Office Building	Washington	DC	20510
Murphy	Chris	U.S. Senator	B40A Dirksen Senate Office Building	Washington	DC	20510
Larson	John	U.S. Representative	1501 Longworth House Office Building	Washington	DC	20515
Sampson	Rob	State Senator, 16 th District	Legislative Office Building, Room 3400	Hartford	CT	06106- 1591

Fusco	John	State Representative, 81 st District	Legislative Office Building, Room 4200	Hartford	CT	06106- 1591
Tong	William	Connecticut Attorney General	55 Elm Street	Hartford	CT	06106
Dykes	Katie	Commissioner, Department of Energy and Environmental Protection	79 Elm Street	Hartford	CT	06106- 5127
Paslick Gillett	Marissa	Chairman, Public Utilities Regulatory Authority	10 Franklin Square	New Britain	CT	06051
Coleman- Mitchell	Renée D.	Commissioner, Department of Public Health	410 Capitol Avenue	Hartford	CT	06134
Merrow	Susan D.	Chair, Council on Environmental Quality	79 Elm Street	Hartford	CT	06106
Hurlburt	Bryan P.	Commissioner, Department of Agriculture	450 Columbus Blvd., Suite 701	Hartford	CT	06103
McCaw	Melissa	Secretary, Office of Policy and Management	450 Capitol Avenue	Hartford	CT	06106
Giulietti	Joseph	Commissioner, Department of Transportation	2800 Berlin Turnpike	Newington	CT	06111
Lehman	David	Commissioner, Department of Economic and Community Development	450 Columbus Boulevard	Hartford	CT	06103
Rush-Kittle	Regina	Deputy Commissioner, Division of Emergency Management and Homeland Security (DEMHS)	1111 Country Club Road	Middletown	CT	06457
Seagull	Michelle H.	Commissioner, Department of Consumer Protection	450 Columbus Boulevard, Suite 901	Hartford	CT	06103

Geballe	Josh	Commissioner, Department of Administrative Services	450 Columbus Boulevard	Hartford	CT	06103
Westby	Kurt	Commissioner, Department of Labor	200 Folly Brook Boulevard	Wethersfield	CT	06109
		Capitol Region Council of Governments	241 Main St #4	Hartford	CT	06106- 5310

Abutter Properties

Map/Lot	Property Address	Owner Name	Street	City	State	Zip
32/86 (SUBJECT PROPERTY)	999 Meriden Waterbury Turnpike	Town of Southington	75 Main Street	Southington	CT	06489
32/87	South End Road - Real	Town of Southington	75 Main Street	Southington	CT	06489
33/32	30 Maxwell Noble Drive #Rec Park	Town of Southington	75 Main Street	Southington	CT	06489
33/31	70 Maxwell Noble Drive #Rec Park	Town of Southington	75 Main Street	Southington	CT	06489
23/16	995 Meriden Waterbury Turnpike	Town of Southington	75 Main Street	Southington	CT	06489
32/77	54 Tridell Drive	Treden Properties LLC	133 Main Street	Southington	CT	06489



Certificate of Mailing — Firm

Name and Address of Sender Justin Adams c/o All-Points Technology Corp., P.C. 3 Saddlebrook Dr. Killingworth, CT 06419		TOTAL NO. of Pieces Listed by Sender 6	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here Postmark with Date of Receipt
Postmaster, per (name of receiving employee)		U.S. POSTAGE PAID WESTERLY, RI 02891 JAN 03 20 AMOUNT \$13.53 R2304N117205-11		

USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code)™	Postage	Fee	Special Handling	Parcel Airlift
1.	Mark Sciota, Town Manager Town of Southington 75 Main St. Southington, CT 06489				
2.	Victoria Triano, Chairwoman Town of Southington Town Council 75 Main St. Southington, CT 06489 Robert Hammersley Chair, Planning and Zoning Comm'n. 196 N. Main St. Southington, CT 06489				
3.	David Byrne Chair, Conservation Commission 196 N. Main St. Southington, CT 06489				
4.	Robert A. Phillips, MS, MPA, AICP Dir. of Planning and Community Dev. 196 N. Main St. Southington, CT 06489				
5.	Rob Oris, Jr. Chairman, Cheshire Town Council 84 South Main St. Cheshire, CT 06410				
6.					



Certificate of Mailing — Firm

Name and Address of Sender Justin Adams c/o All-Points Technology Corp., P.C. 3 Saddlebrook Dr. Killingworth, CT 06419		TOTAL NO. of Pieces Listed by Sender 5	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here Postmark with Date of Receipt. USPS JAN - 3 2020	
USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Sean M. Kimball, Town Manager Town of Cheshire 84 South Main St. Cheshire, CT 06410				
2.	William S. Voelker, AICP Town Planner 84 South Main St. Cheshire, CT 06410				
3.	Suzanne Simone Environmental Planner 84 South Main St. Cheshire, CT 06410				
4.	Michael J. Stroffo Wetlands Agent 84 South Main St. Cheshire, CT 06410				
5.	Earl J. Kurtz, III Chairman, Planning & Zoning Comm 84 South Main St. Cheshire, CT 06410				
6.					



Certificate of Mailing — Firm

Name and Address of Sender Justin Adams c/o All-Points Technology Corp., P.C. 3 Saddlebrook Dr. Killingworth, CT 06419		TOTAL NO. of Pieces Listed by Sender 4	TOTAL NO. of Pieces Received at Post Office™ Postmaster, per (name of receiving employee)	Affix Stamp Here Postmark with Date of Receipt.				
USPS® Tracking Number Firm-specific Identifier		Address (Include Street, City, State, and ZIP Code™)			Postage	Fee	Special Handling	Parcel Airlift
1.		Hon. John Larson U.S. Representative 1501 Longworth House Office Building Washington, DC 20515						
2.		Hon. Rob Sampson State Senator, 16th District Legislative Office Building, Room 3400 Hartford, CT 06106						
3.		Hon. John Fusco Representative, 81st District Legislative Office Building, Room 4200 300 Capitol Ave. Hartford, CT 06106						
4.		Robert DeJongh, Chairman Inland Wetlands & Watercourses Comm 84 South Main St. Cheshire, CT 06410						
5.								
6.								





Certificate of Mailing — Firm

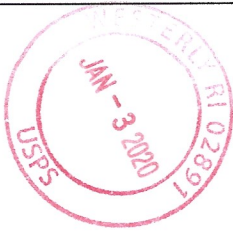
Name and Address of Sender Justin Adams c/o All-Points Technology Corp., P.C. 3 Saddlebrook Dr. Killingworth, CT 06410		TOTAL NO. of Pieces Listed by Sender 6	TOTAL NO. of Pieces Received at Post Office™ Postmaster, per (name of receiving employee)	Affix Stamp Here Postmark with Date of Receipt.			
USPS® Tracking Number Firm-specific Identifier		Address (Name, Street, City, State, and ZIP Code™)		Postage	Fee	Special Handling	Parcel Airtift
1.		Regina Rush-Kittle, Deputy Commissioner Div. of Emergency Mgmt and Homeland Security 1111 Country Club Rd. Middletown, CT 06457					
2.		Michelle H. Seagull, Commissioner Department of Consumer Protection 450 Columbus Blvd., Suite 901 Hartford, CT 06103					
3.		Josh Geballe, Commissioner Department of Administrative Services 450 Columbus Blvd. Hartford, CT 06103					
4.		Kurt Westby, Commissioner Department of Labor 200 Folly Brook Blvd. Wethersfield, CT 06109					
5.		Treden Properties LLC 133 Main St. Southington, CT 06489					
6.		Town of Southington 75 Main St. Southington, CT 06489					





Certificate of Mailing — Firm

Name and Address of Sender Justin Adams c/o All-Points Technology Corp., P.C. 3 Saddlebrook Dr. Killingworth, CT 06419		TOTAL NO. of Pieces Listed by Sender 6	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here <i>Postmark with Date of Receipt.</i>			
USPS® Tracking Number Firm-specific Identifier		Address (Name, Street, City, State, and ZIP Code™)		Postage	Fee	Special Handling	Parcel Airlift
1.		Renee D. Coleman-Mitchell, Commissioner Department of Public Health 410 Capitol Ave. Hartford, CT 06134					
2.		Susan D. Merrow, Chair Council on Environmental Quality 79 Elm St. Hartford, CT 06106					
3.		Bryan P. Hurlburt, Commissioner Department of Agriculture 450 Columbus Blvd., Suite 701 Hartford, CT 06103					
4.		Melissa McCaw, Secretary Office of Policy and Management 450 Capitol Ave. Hartford, CT 06106					
5.		Joseph Guilletti, Commissioner Department of Transportation 2800 Berlin Turnpike Newington, CT 06111					
6.		David Lehman, Commissioner Dept. of Economic and Community Development 450 Columbus Blvd Hartford, CT 06103					





Certificate of Mailing — Firm

Name and Address of Sender Justin Adams c/o All-Points Technology Corp., P.C. 3 Saddlebrook Dr. Killingworth, CT 06419		TOTAL NO. of Pieces Listed by Sender 6	TOTAL NO. of Pieces Received at Post Office™ Postmaster, per (name of receiving employee)	Affix Stamp Here Postmark with Date of Receipt.			
USPS® Tracking Number Firm-specific Identifier		Address (Name, Street, City, State, and ZIP Code™)		Postage	Fee	Special Handling	Parcel Airlift
1.		Honorable Richard Blumenthal Senator 702 Hart Senate Office Building Washington, DC 20510 Hon. Chris Murphy Senator 840A Dirksen Senate Office Building Washington, DC 20510					
3.		Capitol Region Council of Governments 241 Main St. #4 Hartford, CT 06106-5310					
4.		Hon. William Tong Attorney General 55 Elm St. Hartford, CT 06106					
5.		Katie Dykes, Commissioner Dept. of Energy & Environmental Protection 79 Elm St. Hartford, CT 06106-5127					
6.		Marissa Paslick Gillett, Chairman Public Utilities Regulatory Authority 10 Franklin Square New Britain, CT 06051					

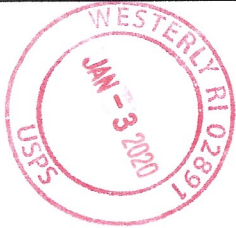
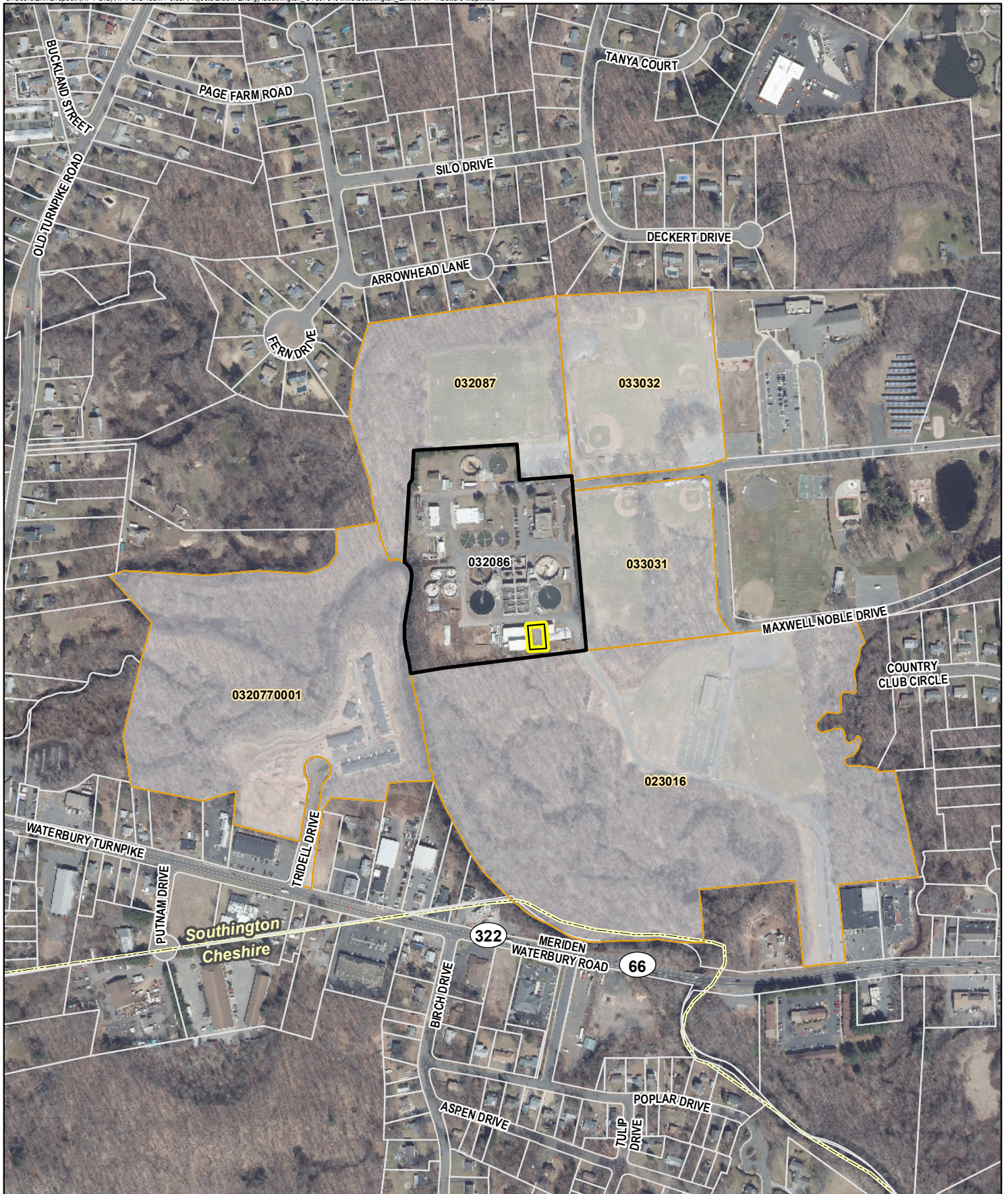


Exhibit 11



Legend

- Site
- Approximate Assessor Parcel Boundary (CTDEEP)
- Project Location
- Municipal Boundary
- Abutting Properties

Map Notes:
 Base Map Source: 2019 Aerial Photograph (CTECO)
 Map Scale: 1 inch = 500 feet
 Map Date: January 2020

500 250 0 500
 Feet



Exhibit 11 Abutters Map

Proposed Bloom Energy Facility
 999 Meriden Waterbury Turnpike
 Plantsville, CT



Exhibit 12

Jennifer Young Gaudet

From: Jennifer Young Gaudet
Sent: Tuesday, December 17, 2019 2:23 PM
To: 'Rob Phillips'
Cc: David Lavallee; Sheila McDonald; Jim Grappone; Melissa LaMontagne; Betty Griffin; John Smigel
Subject: RE: Bloom Energy - Water Treatment Plant, 999 Meriden Waterbury Turnpike

Thanks very much for your quick attention to this. As part of the Siting Council requirements, you and certain other municipal officials will receive a letter, scheduled to go out after January 1, providing notice that the petition will be filed. If you have any questions at any time, please don't hesitate to reach out to me.

Thank you.



Jennifer Young Gaudet
Program Manager
860.798.7454 (M)

From: Rob Phillips <phillipsr@southington.org>
Sent: Tuesday, December 17, 2019 2:02 PM
To: Jennifer Young Gaudet <jyounggaudet@allpointstech.com>
Cc: David Lavallee <lavalleed@southington.org>; Sheila McDonald <mcdonalds@southington.org>; Jim Grappone <grapponej@southington.org>; Melissa LaMontagne <lamontagnem@southington.org>; Betty Griffin <griffinb@southington.org>; John Smigel <smigelj@southington.org>
Subject: RE: Bloom Energy - Water Treatment Plant, 999 Meriden Waterbury Turnpike

We have no outstanding concerns. Zoning Permit and a Building Permit likely.

Thank you

G lhfwr#i#Sdqqlj#dg#F rp p xql#G hyharsp hqw#
Mrkg#Z hlfkvh#P xqlfsc#F hqvu##
4<9#Q ruk#P dq#vhhw#vrxwkbgjwq#FW#
S#D# 9305:90957;#
I#D# 93095;06844#
[sklolsvuC vrxwkbgjwq1ruj##](#)

From: Jennifer Young Gaudet [<mailto:jyounggaudet@allpointstech.com>]
Sent: Tuesday, December 17, 2019 12:09 PM
To: Rob Phillips
Cc: David Lavallee; Sheila McDonald; Jim Grappone; Melissa LaMontagne; Betty Griffin; John Smigel
Subject: RE: Bloom Energy - Water Treatment Plant, 999 Meriden Waterbury Turnpike

Good afternoon,

Yes, this is within the Siting Council's sole jurisdiction. However, we want to provide an opportunity for you to comment on the plans in advance if you so desire.

Jennifer Young Gaudet
860.798.7454

From: Rob Phillips <phillipsr@southington.org>
Sent: Tuesday, December 17, 2019 11:57 AM
To: Jennifer Young Gaudet <jyounggaudet@allpointstech.com>
Cc: David Lavallee <lavalleed@southington.org>; Sheila McDonald <mcdonalds@southington.org>; Jim Grappone <grapponej@southington.org>; Melissa LaMontagne <lamontagnem@southington.org>; Betty Griffin <griffinb@southington.org>; John Smigel <smigeli@southington.org>
Subject: RE: Bloom Energy - Water Treatment Plant, 999 Meriden Waterbury Turnpike

Good morning,

Since these require CT Siting Council approval, I can assume that it is in their sole jurisdiction to permit? If so, we would only require a Zoning Permit/Building Permit for the installation.

G lhfwr#ri#Sobqlbj#bq#F rp p xqlw#G hyhosp hqw#
Mrkq#Z hlfvndP xqIfsdF hqvu##
4<9#Q ruk#P dq#vwhw#vrxwkgjwq/FW#
S#D# 9305:9057;#
I#D# 9305;0644#
[sklolsuC vrxwkgjwq1ruj##](#)

From: Jennifer Young Gaudet [<mailto:jyounggaudet@allpointstech.com>]
Sent: Monday, December 16, 2019 4:13 PM
To: Rob Phillips
Subject: Bloom Energy - Water Treatment Plant, 999 Meriden Waterbury Turnpike

Dear Mr. Phillips:

I am writing on behalf of Bloom Energy. As you may know, Bloom has been in discussions with the Town about development of a fuel cell installation at the water treatment plant at 999 Meriden Waterbury Turnpike. Bloom will submit a petition to the Connecticut Siting Council for approval. In preparation for the filing, we are seeking any comment you or other appropriate City staff may have on the proposed plans. Attached are preliminary plans depicting the proposed installation. As shown, the Bloom energy servers will be placed to the east of the denitrification building.

I am available to discuss the plans or answer any questions you may have. I can be reached by phone at the number below or by e-mail.

Thank you.

Jennifer Young Gaudet

Jennifer Young Gaudet
Program Manager



860.798.7454 (M)

This message contains confidential information and is intended for the individual named. If you are not the addressee you should not disseminate, distribute or copy this e-mail. Please notify the sender immediately by e-mail if you have received this e-mail by mistake And delete this e-mail from your system.'

This message contains confidential information and is intended for the individual named. If you are not the addressee you should not disseminate, distribute or copy this e-mail. Please notify the sender immediately by e-mail if you have received this e-mail by mistake And delete this e-mail from your system.'