Bloomenergy

Attn: Robert Stein, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Petition of Bloom Energy Corporation, as agent for FedEx Ground, for a Declaratory Ruling for the Location and Construction of a 1-megawatt Fuel Cell Customer Side Distributed Resource at 1152 Middle Street, Middletown, CT.

Dear Chairman Robert Stein:

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"), as agent for FedEx Ground, request the Connecticut Siting Council approve the location and construction of a 1-megawatt fuel cell and associated equipment (the "Facility"). The Facility will be located on the site of the FedEx Ground (currently under construction) building at 1152 Middle Street, Middletown, CT (the "Site"). Electricity generated by the Facility will be consumed at the Site, 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

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

Bloomenergy

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

PETITION OF BLOOM ENERGY CORPORATION AS AGENT FOR FEDEX GROUND FOR A DECLARATORY RULING FOR THE LOCATION AND CONSTRUCTION OF A 1-MEGAWATT FUEL CELL CUSTOMER-SIDE DISTRIBUTED RESOURCE AT 1152 MIDDLE STREET, MIDDLETOWN, CT 06457	:	PETITION NO. ____ October, 2017

PETITION OF BLOOM ENERGY CORPORTATION AS AGENT FOR IKEA 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"), as agent for FedEx Ground, requests that the Connecticut Siting Council ("Council") approve by declaratory ruling the location and construction of a customer-side distributed resources project comprised of four (4) new ES-5 Bloom Energy Server solid oxide fuel cells and associated equipment (the "Facility"), providing 1-megawatts ("MW") (net) of power to the FedEx Ground building currently under construction at 1152 Middle Street, Middletown, CT (the "Site"). *See* Exhibit 1. 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 FedEx Ground.

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 Projection."

The proposed Facility will be a customer-side distributed resources facility under 65MW that complies with the air and water quality standards of the State of Connecticut Department of Energy and Environmental Projection ("DEEP"). Bloom submits that no Certificate is required because the proposed modifications would not have a substantial adverse environmental effect in the immediate vicinity of the Facility as well as 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
1299 Orleans Drive
Sunnyvale, CA 94089
Telephone: (860) 839-8373
Fax: (408) 543-1501
Email: justin.adams@bloomenergy.com

Joseph Udinskey
Bloom Energy Corporation
1299 Orleans Drive
Sunnyvale, CA 94089
Telephone: (302) 740-6977
Fax: (408) 543-1501
Email: joseph.udinskey@bloomenergy.com

II. DISCUSSION

A. Project Description and Purpose

The Facility will be a 1-MW customer-side distributed resources consisting of four (4) state-of-the-art Bloom Energy Server and associated equipment. The Facility will be interconnected to a switchboard located within the future electrical room of the FedEx Ground building (the "Building"). *See* Exhibit 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 [and is 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)(40)(A). Further, in its Final Decision in Docket No. 12-02-09, dated September 12, 2012, 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)(26)(A). *See* Exhibit 3.

The purpose of the proposed project is to replace the average baseload of the Building with a Class I renewable energy source, achieve corporate sustainability goals, and improve reliability of electrical systems and equipment. The Facility was sized to provide at least 95% of the average baseload of the representative site in California 'FedEx Woodbridge' (Exhibit 4). 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 four (2 x 250 kW ES5-AA2AAA and 2 x ES5-AAcAAA models) Bloom solid oxide fuel cell Energy Servers, and associated equipment. The location and arrangement for the fuel cells and equipment is shown in Exhibit 2. The associated equipment includes a water deionizers, telemetry cabinets, disconnect switches and utility cabinets. The concrete pads for the Facility and associated equipment will be surrounded by existing asphalt pavement and protected by bollards. The Facility is enclosed, factory-assembled and tested prior to installation on the Site. *See* Exhibit 5.

The operational life of the Facility is for the life of the 20 year contract and the solid oxide media in the fuel cells are exchanged at roughly 5 year intervals. The Facility, the connections, and associated equipment will be installed in compliance with applicable building, plumbing, electrical, and fire codes. The options at the conclusion of the 20 year contract FedEx

Ground 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 concrete pads 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 1-MW 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 shall interconnect with the utility power system at the Building's main switchboard. 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 the switchgear located inside the electrical room. The interconnection application for the Facility was submitted and under review at the time this petition was filed. The Facility will be fueled by natural gas supplied by Eversource Company.

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 come back online smoothly and efficiently when the disruption is completed. In addition, FedEx Ground and its employees are provided with an Emergency Response Plan (Exhibit 6) to assist in the safe operation of the Facility.

The Facility will be installed in accordance with NFPA 853[1]. 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 automatic shutdown of the energy server. Before commissioning, the fuel lines (pipe) are cleaned in accordance with Public Act 11-101[2].

[1] Standard for the Installation of Stationary Fuel Cell Power Systems, 2015 Edition
[2] Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission,

C. Existing Environment

i. The Site

The Facility would be installed entirely within the FedEx Ground property located at 1152 Middle Street, Middletown, Connecticut. Specifically, the Facility will be constructed on the 204.84-acre property. The Site is zoned as Interstate Trade ("IT") under the zoning regulations of the City of Middletown (the "City"). The zone is designated for development of certain industrial and business uses in close proximity to the Interstate Highway. The parcels to the north, south, and east and west are also zoned IT. There are residential properties located to the west of the proposed Facility. The proposed Facility would be shielded by the elevated parking area from the closest residential property located approximately 530 feet to the west.

The location of the Facility was strategically placed in proximity to the mechanical equipment to avoid impacting operational requirements of the Building.

ii. Wildlife and Habitat

A review of the publicly available Natural Diversity Database (NDDB) June 2017 data shows that there are known occurrences of state-listed species within the proposed Site, but not within the area of the proposed Facility. See Exhibit 2.

iii. Wetlands and Watercourse

The proposed Facility would be located on an area that was developed and disturbed during the construction of the Building and its access roads and parking areas. There are no identified wetlands or watercourses within the proposed location of the Facility on the westside of the Building. According to the FedEx Ground Construction Plans there are identified wetlands and watercourses (Sawmill Brook) on the eastside of the Building. See Exhibit 2. Protection

measures described in *Section E* will minimize the potential for soil erosion and the flow of sediments off site. Due to the distance of the proposed Facility from identified wetlands and watercourses and the implementation of construction protection measures, impacts to wetlands and watercourses are not anticipated during the construction and operation of the Facility.

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 not be located within a 100- or 500-year flood zone. See Exhibit 2.

The Site was also reviewed for proximity to Aquifer Protection Areas. According to GIS data provided by CTDEEP, the closest Aquifer Protection Area is located approximately 2.5-miles to the west of the proposed Facility.

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, which 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 which 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 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. There has never been a leak from one of the desulfurization canisters. The structural integrity and leak prevention continues 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 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 376-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[3]. 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 application are provided on the CARB's distributed generation certification website (http://www.arb.ca.gov/energy/dg/eo/eo-current.htm).

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) program[4], and compares them to emissions generated from the proposed Facility. By virtue of the non-combustion process the Bloom Energy fuel cells virtually eliminate NOx, SOx, CO, VOCs and particulate matter emissions from the energy production process. Similarly, there are no CH_4, SF_6, HFC or PFC emissions. The CH_4 is broken down in the reforming process. Reforming is the type of process where if you have sufficient catalyst, the

[3] See Conn. Agencies Regs. §§ 22a-174-42(b) and (e).
[4] Sec. 16-244t

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 (NOx)	<0.01 lbs/MWh	0.07 lbs/MWh
Carbon Monoxide (CO)	<0.05 lbs/MWh	0.10 lbs/MWh
Sulfur Oxides (SOx)	Negligible	Not Listed
Volatile Organic Compounds (VOCs)	<0.02 lbs/MWh	0.02 lbs/MWh
Carbon Dioxide (CO2)[5]	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 NOx, SOx, and particulate matter.

iii. Sound Levels

The nearest parcel boundary is with a residential property located approximately 530 linear feet to the west and defined as a Class A noise zone[6]. The proposed Facility will be located approximately 40 feet lower in elevation than the closest residential property and will be shielded by a retaining wall supporting the parking area between the Facility and said property. The results of the sound model predicting noise levels at 530 feet are provided as Exhibit 7. The proposed Facility would be defined as "Scenario 1" in the model. Scenario 1 models noise for a Bloom Energy Server installed close to a building or tall wall which reflects the noise produced to the opposite side of the Energy Server and increases the noise levels. The results of the

[5] Carbon Dioxide is measured at Bloom's stated lifetime efficiency level of 53-60%
[6] Sec. 22a-69-2.3. Noise zone standards

Scenario 1 sound model at 530 feet are 37.3dBA, which is in compliance with noise criteria set forth in Connecticut regulations for the Control of Noise[7] and the City of Middletown Noise Control Ordinance[8].

iv. Visual Effects

The overall visual effect would be mitigated by locating the Facility on the west side of Building. The Facility would be shielded by the Building to the north and east and by the retaining wall to the west and south.

E. Project Construction and Maintenance

Bloom anticipates construction to start in the first quarter of 2018 with 12-14 weeks of total construction time (4 weeks of site prep, 4 weeks of installation, and 4 weeks of commissioning). Middletown exempts noise generated by construction activity between the hours of 7:00 a.m. and one hour after sundown, Monday through Saturday. Bloom anticipates site work construction to only occur during these hours Monday through Friday and would work Saturdays in the event an expedited schedule is required.

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 affect to drainage patterns or stormwater discharges are

[7] Sec. 22a-69-3.5. Noise zone standards
[8] Chapter 206. Noise

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. 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 certified mail to all persons and appropriate municipal officials and governmental agencies (Berlin, Cromwell, and Middletown) to whom notice is required to be given pursuant to Conn. Agencies Regs. § 16-50j-40(a)[9]. A copy of the notice letter and a service list are provided in Exhibit 8 and the corresponding abutters map is provided in Exhibit 2. Additionally, prior to filing this petition, representatives from Bloom briefly discussed the proposed Facility with the City of Middletown Land Use

[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*l* of the Connecticut General Statutes]."

Planner. An opportunity to comment on the proposed site plan has been provided to the Land Use Planner to incorporate any design comments they may have. *See* Exhibit 9.

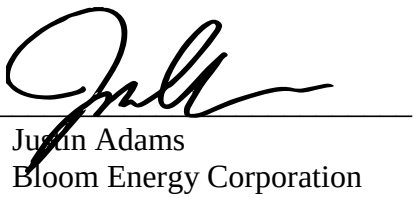
IV. BASIS FOR GRANTING OF THE PETITION

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)(40)(A), because the Facility is "a unit with a rating of not more than sixty-five megawatts [and is 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.

V. CONCLUSION

For the reasons stated above, Bloom, as agent for FedEx Ground, 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
1299 Orleans Drive
Sunnyvale, CA 94089
Telephone: (408) 338-7452
Email: justin.adams@bloomenergy.com

Bloomenergy

EXHIBITS

Exhibit 1: Site Location Map

Exhibit 2: Site and Permit Plans

Exhibit 3: Final Decision, PURA Docket No. 12-02-09, *Petition of Bloom Energy Corporation for a Declaratory Ruling that Its Solid Oxide Fuel Cell Energy Server Will Qualify as a Class I Renewable Energy Source* (Sept. 12, 2012)

Exhibit 4: Meter Interval Data

Exhibit 5: Bloom Energy Server Product Datasheet and General Installation Overview

Exhibit 6: Emergency Response Plan

Exhibit 7: Sound Model

Exhibit 8: Notice Pursuant to Conn. Agencies Regs. § 16-50j-40(a)

Exhibit 9: Email to City Planner

Bloomenergy

Exhibit 1

ALL-POINTS
TECHNOLOGY CORPORATION

□SA□□LE□ROO□ □RI□E
□ILLING□ ORTH□CT □□□□□
□ □ □ □ALLPOINTSTECH□COM

PHONE□□□□□-□□□-□□□□
□A□□□□□-□□□-□□□□

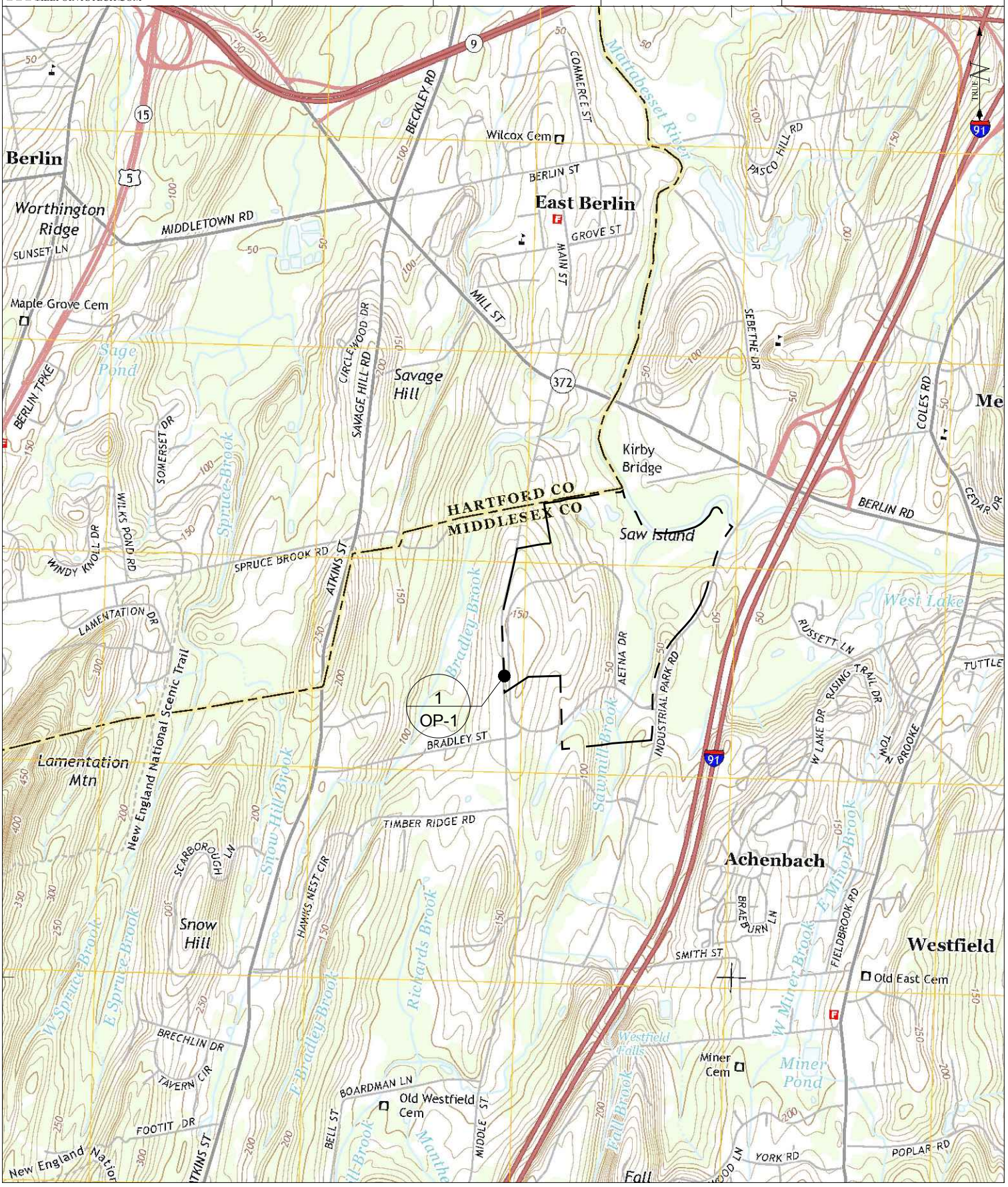
APT FILING NUMBER: CT507380	
USGS-1	
SCALE: AS NOTED	DRAWN BY: ELZ
DATE: 10/05/2017	CHECKED BY: BJP

Bloomenergy

1299 ORLEANS DRIVE
SUNNYVALE, CA 94089
WWW.BLOOMENERGY.COM

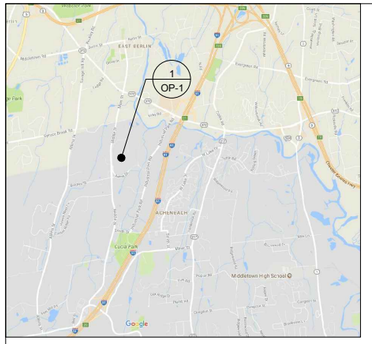
USGS PROJECT LOCATION MAP

FEDEX
1152 MIDDLE STREET
MIDDLETOWN, CT 06457

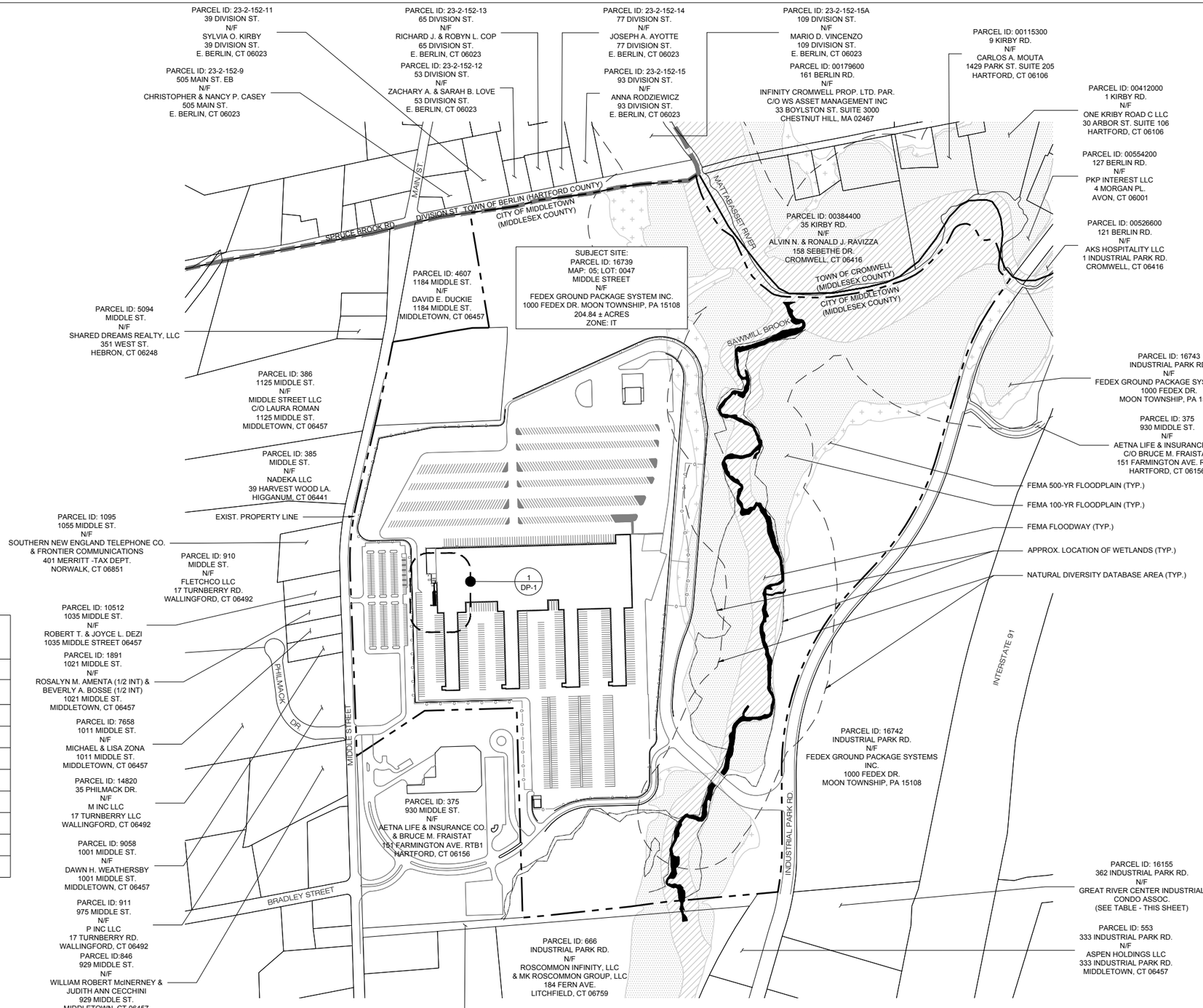


Bloomenergy

Exhibit 2



LOCATION PLAN



362 INDUSTRIAL PARK RD.
N/F

PARCEL ID	UNIT	OWNER	OWNER ADDRESS
617	01	L J SAKON LLC	362 INDUSTRIAL PARK RD. UNIT 1 MIDDLETOWN, CT 06457
768	02	ALHSCONDOR LLC	362 INDUSTRIAL PARK RD. UNIT 2 MIDDLETOWN, CT 0657
854	03	ELLENAIM LLC	362 INDUSTRIAL PARK RD. UNIT 3 MIDDLETOWN, CT 06457
1094	04	GML HOLDINGS LLC	PO BOX 737 MIDDLETOWN, CT 06457
856	05	IN STORE OPPURTUNITIES INC	362 INDUSTRIAL PARK RD. UNIT 5 MIDDLETOWN, CT 06457
853	06	SOLUTION GROUP LLC	217 FARMINGTON AVE. FAIRFIELD, CT 06825
1134	07	NXEGEN INC.	362 INDUSTRIAL PARK RD. UNIT 7 MIDDLETOWN, CT 06457
855	08	BRAEMAR PROPERTIES LLC	7 HARKINS LANE HEBRON, CT 06450
773	09	GAETAN G. & SUSAN J. LACHANCE	116 BAR GATE TRAIL KILLINGWORTH, CT 06419

PERMIT PLANS BASED ON:

1. EXISTING CONDITIONS TAKEN FROM A PLAN ENTITLED "OVERALL SITE PLAN", DRAWING NUMBER: G1.1, AND "DETAILED SITE PLAN", DRAWING NUMBER C1.1, BY BLOOM ENERGY, DATED 09/01/2017
2. LATEST GOOGLE AERIAL IMAGE.
3. WETLAND INFORMATION TAKEN FROM A PLAN ENTITLED, "EXISTING CONDITIONS". DRAWING NUMBERS: EX-0.00-EX-0.20, BY BL COMPANIES, DATED: 4/9/15
4. PROPOSED SITE INFORMATION FROM PLANS ENTITLED "OVERALL SITE PLAN", DRAWING NUMBER: G1.1, AND "DETAILED SITE PLAN", DRAWING NUMBER C1.1, BY BLOOM ENERGY, DATED 09/01/2017
5. FEMA FLOOD INFORMATION FROM FIRM MAP PANEL# 09007C0102G; EFFECTIVE DATE: AUGUST 28, 2008
6. NDDB INFORMATION FROM CTDEEP GIS NATURAL DIVERSITY DATABASE AREAS, DATED JUNE 2017.

Bloomenergy
1299 ORLEANS DRIVE
SUNNYVALE, CA 94089
WWW.BLOOMENERGY.COM

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

PERMITTING DOCUMENTS

NO	DATE	REVISION
0	10/05/17	FOR REVIEW: BJP
1		
2		
3		
4		
5		
6		

PREPARED BY:

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

OWNER: FEDEX GROUND PACKAGE SYSTEM INC.
ADDRESS: 1000 FEDEX DR. MOON TOWNSHIP, PA 15108

FEDEX

SITE ADDRESS: 1152 MIDDLE STREET MIDDLETOWN, CT 06457

APT FILING NUMBER: CT507380

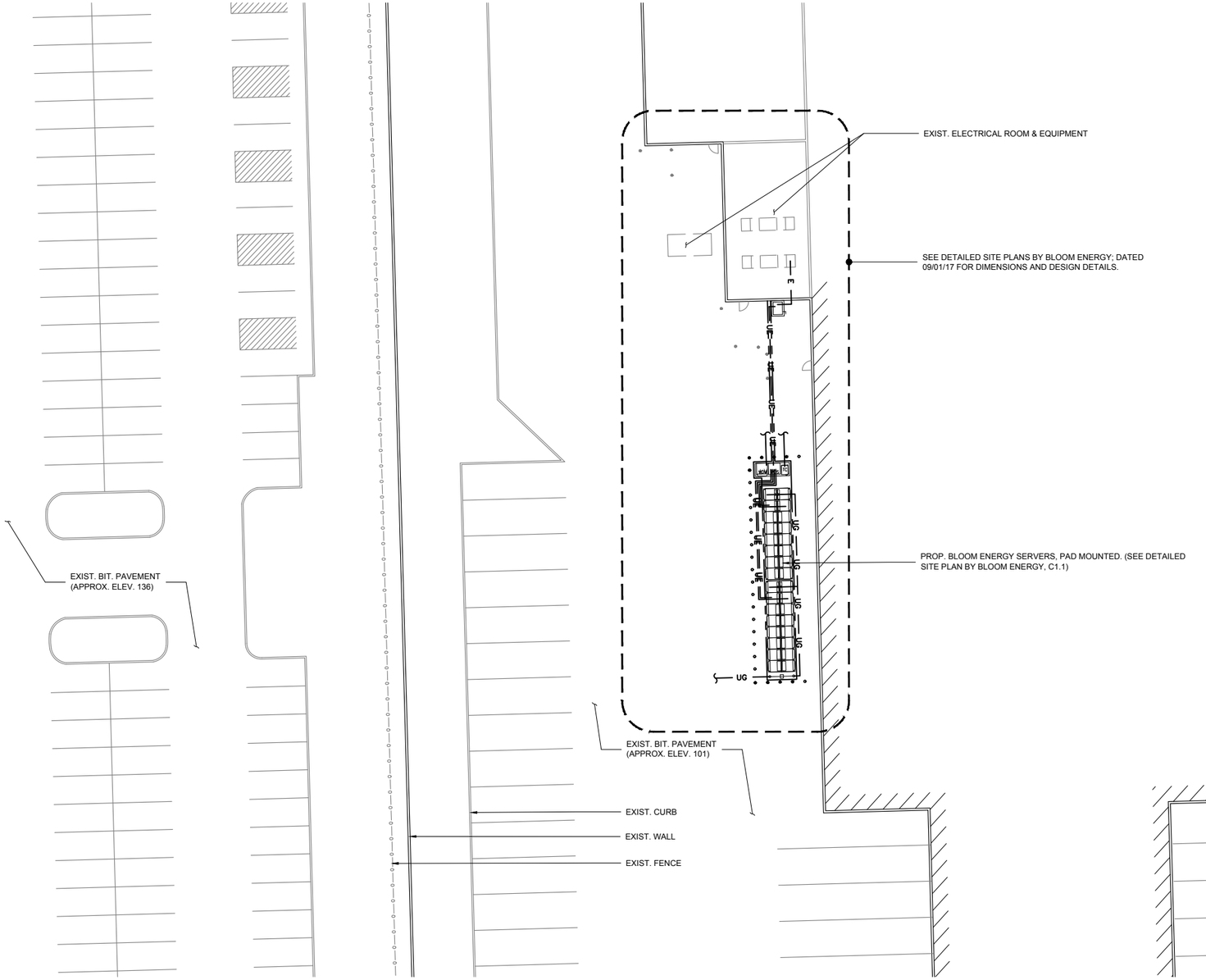
DRAWN BY: ELZ
DATE: 10/05/17
CHECKED BY: BJP

SHEET TITLE:

OVERALL PERMIT PLAN

SHEET NUMBER:

OP-1



PERMIT PLANS BASED ON:

1. EXISTING CONDITIONS TAKEN FROM A PLAN ENTITLED "OVERALL SITE PLAN", DRAWING NUMBER: G1.1, AND "DETAILED SITE PLAN", DRAWING NUMBER C1.1, BY BLOOM ENERGY, DATED 09/01/2017
2. LATEST GOOGLE AERIAL IMAGE.
3. WETLAND INFORMATION TAKEN FROM A PLAN ENTITLED, "EXISTING CONDITIONS". DRAWING NUMBERS: EX-0.00-EX-0.20, BY BL COMPANIES, DATED: 4/9/15
4. PROPOSED SITE INFORMATION FROM PLANS ENTITLED "OVERALL SITE PLAN", DRAWING NUMBER: G1.1, AND "DETAILED SITE PLAN", DRAWING NUMBER C1.1, BY BLOOM ENERGY, DATED 09/01/2017
5. FEMA FLOOD INFORMATION FROM FIRM MAP PANEL# 09007C0102G; EFFECTIVE DATE: AUGUST 28, 2008
6. NDDB INFORMATION FROM CTDEEP GIS NATURAL DIVERSITY DATABASE AREAS, DATED JUNE 2017.

1 / DP-1 **DETAILED PERMIT PLAN**
SCALE: 1" = 20'-0"

TRUE N

20 0 10 20 40
(IN FEET)
1" = 20 ft. (printed 22x34)
1" = 40 ft. (printed 11x17)

Bloomenergy
1299 ORLEANS DRIVE
SUNNYVALE, CA 94089
WWW.BLOOMENERGY.COM

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

PERMITTING DOCUMENTS

NO	DATE	REVISION
0	10/05/17	FOR REVIEW: BJP
1		
2		
3		
4		
5		
6		

PREPARED BY:

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

OWNER: FEDEX GROUND PACKAGE SYSTEM INC.
ADDRESS: 1000 FEDEX DR. MOON TOWNSHIP, PA 15108

FEDEX

SITE ADDRESS: 1152 MIDDLE STREET MIDDLETOWN, CT 06457

APT FILING NUMBER: CT507380

DRAWN BY: ELZ

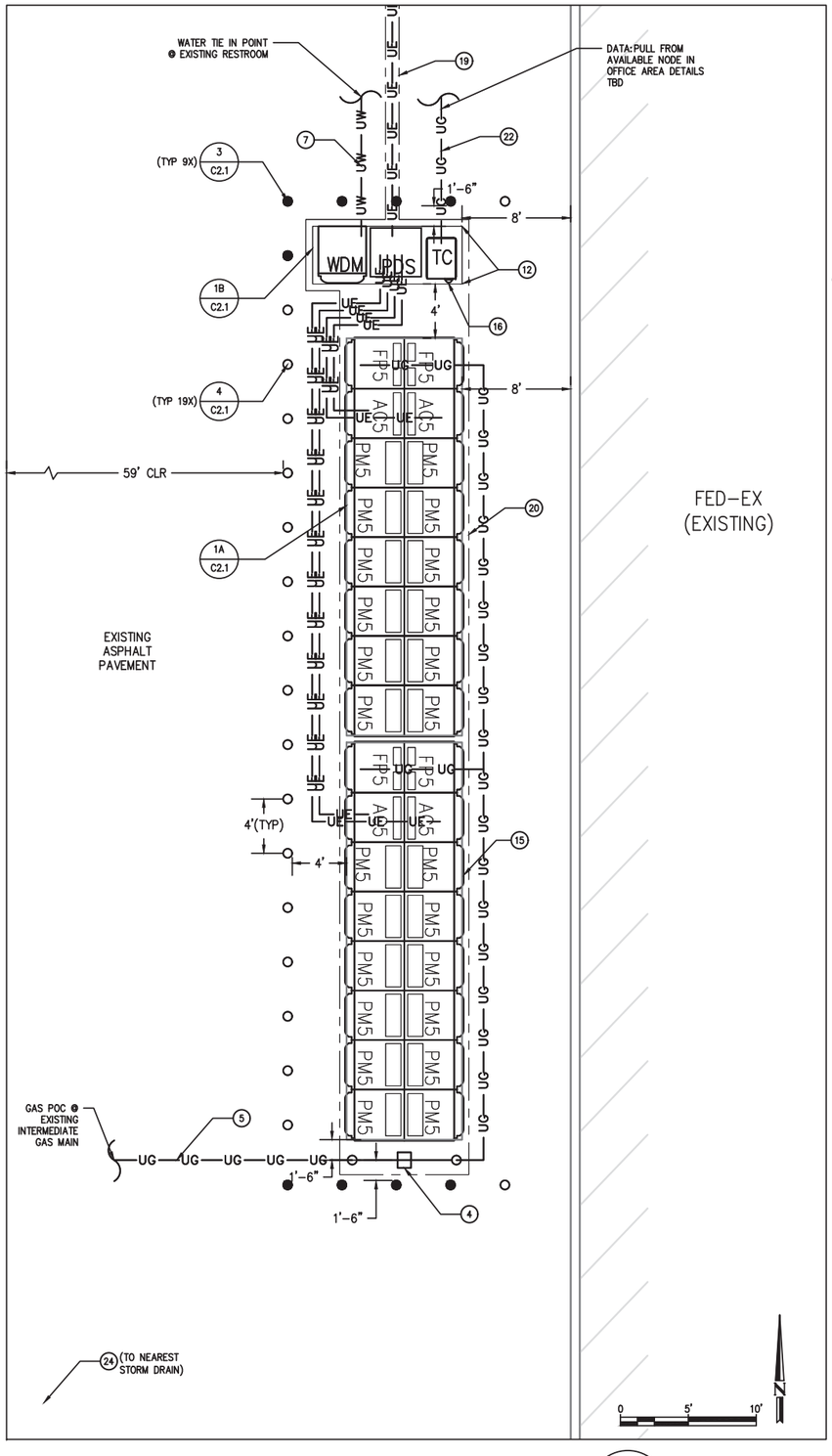
DATE: 10/05/17 CHECKED BY: BJP

SHEET TITLE:

DETAILED PERMIT PLAN

SHEET NUMBER:

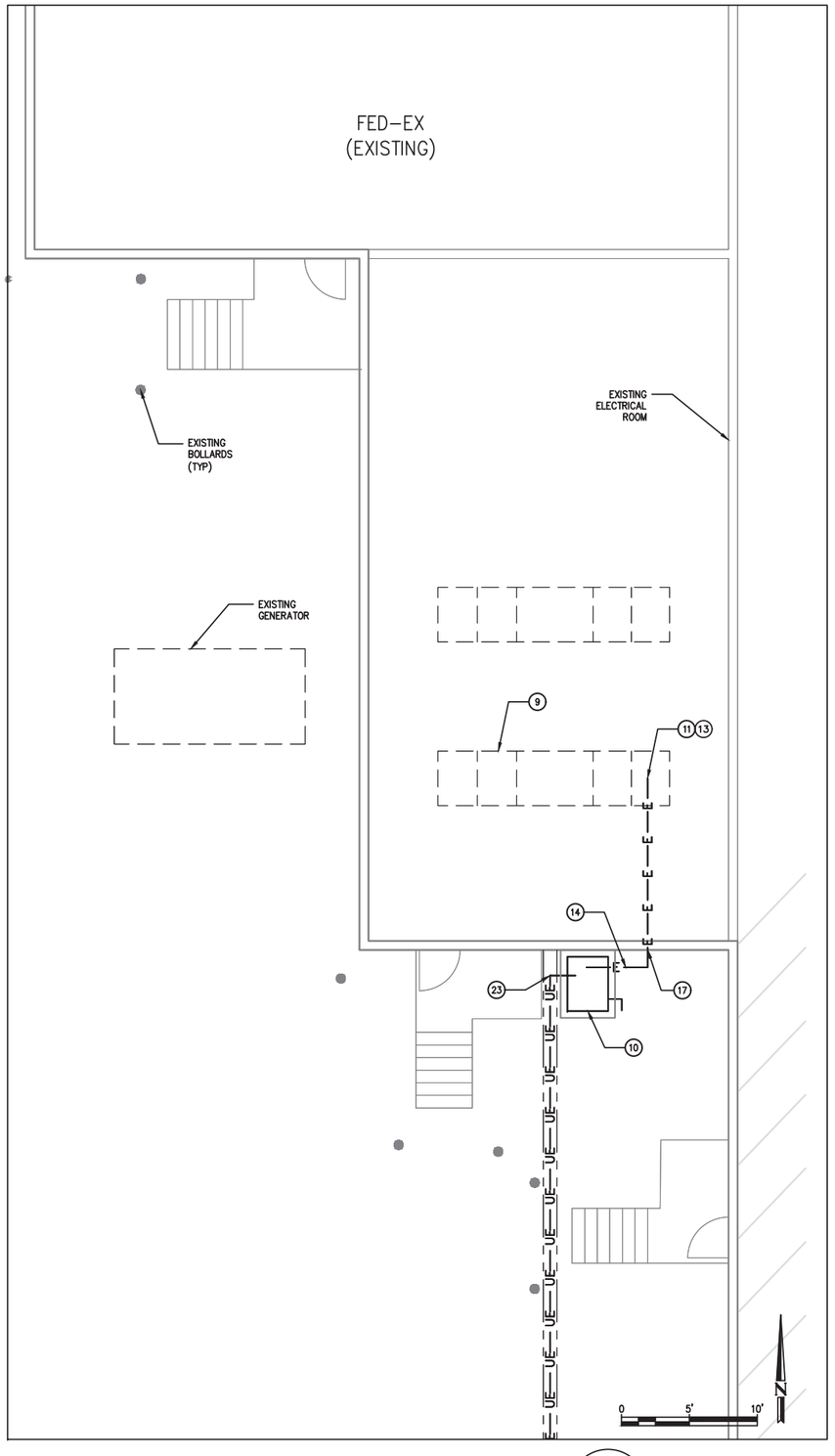
DP-1



DETAILED SITE PLAN

SCALE: 1" = 5'

1 / C1.1



DETAILED SITE PLAN

SCALE: 1" = 10'

2 / C1.1

GENERAL NOTES

1. CLEAN AND PRIME ALL NEW WIRE MOUNTED PIPING AND CONDUIT. PIPING AND CONDUIT SHALL BE PAINTED WITH EXTERIOR GRADE PAINT TO MATCH EXISTING.
2. CONDUITS AND PIPES MOUNTED TO BUILDING WALL SHALL BE SUPPORTED AS PER LOCAL CODE, RUN AT HEIGHT ABOVE DOORWAYS, AND STAND OFF WALL TO AVOID EXISTING CONDUITS AND PIPES.
3. SLOPE LINES SHOWN ARE APPROXIMATE AND INTENDED TO SHOW THE GENERAL DIRECTION OF WATER RUN OFF; SLOPE LINES ARE DRAWN PER VISUAL SURVEY OF SURROUNDING AREA.
4. SEE BLOOM ENERGY PRODUCT INSTALLATION DRAWINGS FOR UTILITY CONNECTIONS TO ANCILLARY EQUIPMENT AND ENERGY SERVER.

REFERENCE SHEET NOTES

(1) NEW UTILITY PROVIDED AND INSTALLED GAS METER & REGULATOR ASSEMBLY WITH SHUT-OFF VALVE. CONTRACTOR SHALL PROVIDE PAD PER DETAILS IF REQUIRED BY UTILITY COMPANY. COORDINATE ALL CONNECTIONS WITH GAS UTILITY.

(2) NEW UNDERGROUND GAS SERVICE TAP BY UTILITY COMPANY. COORDINATE WITH GAS UTILITY. CONTRACTOR SHALL PERFORM COMPACTION AND MATCH EXISTING SURFACE AND GRADE. CONTRACTOR SHALL COORDINATE GAS PIPE SIZING AND INSTALLATION REQUIREMENTS WITH UTILITY.

(3) NEW ABOVEGROUND GAS SERVICE TAP BY UTILITY COMPANY. CONTRACTOR SHALL COORDINATE WITH GAS UTILITY. REFER TO GAS RISER DETAIL FOR ADDITIONAL REQUIREMENTS.

(4) NEW PRIVATE GAS REGULATOR SET ASSEMBLY FOR ENERGY SERVER WITH SHUT-OFF VALVE. REFER TO GAS RISER DETAIL FOR ADDITIONAL REQUIREMENTS.

(5) NEW GAS PIPE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO GAS RISER DETAIL FOR ADDITIONAL REQUIREMENTS.

(6) TAP EXISTING WATER LINE AT NEAREST ACCESSIBLE LOCATION IN BUILDING AS SHOWN WITH A LOCAL SHUT-OFF VALVE. REFER TO DOMESTIC WATER CONNECTION DETAIL FOR ADDITIONAL REQUIREMENTS.

(7) NEW WATER PIPE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO WATER RISER DETAIL FOR ADDITIONAL REQUIREMENTS.

(8) CONTRACTOR SHALL REPLACE EXISTING STORM DRAIN PIPE UNDER SYSTEM WITH DUCTILE IRON PIPE AND MATCH EXISTING SIZE EXTENDING A MINIMUM 4' BEYOND SYSTEM.

(9) EXISTING UTILITY ELECTRIC METER. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.

(10) NEW BLOOM PROVIDED, CONTRACTOR INSTALLED, DISCONNECT SWITCH. MOUNT TO WALL PER MANUFACTURER AND UTILITY SPECIFICATIONS.

(11) CONTRACTOR SHALL TERMINATE ELECTRIC FEEDER AS SHOWN. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.

(12) CONTRACTOR SHALL PROVIDE TWO GROUNDING RODS TO BE PLACED 6' APART MINIMUM. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.

(13) NEW ELECTRICAL FEEDER SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.

(14) MOUNT NEW CONDUIT/PIPE TO EXTERIOR WALL. COORDINATE EXACT ROUTING WITH CUSTOMER REPRESENTATIVE IN THE FIELD. REFER TO WALL MOUNTING DETAIL FOR ADDITIONAL REQUIREMENTS.

(15) NEW BLOOM ENERGY SERVER. REFER TO BLOOM STANDARD INSTALLATION DRAWING SET FOR ADDITIONAL ENERGY SERVER DETAILS.

(16) FACTORY WIRED ENERGY SERVER EMERGENCY POWER-OFF SWITCH (EPO).

(17) CONTRACTOR SHALL CORE CONDUIT AND/OR PIPE THROUGH WALL. SCAN WALL PRIOR TO CORING TO AVOID COLLATERAL DAMAGE TO EXISTING PLUMBING AND WIRING. REFER TO WALL PENETRATION DETAIL FOR ADDITIONAL REQUIREMENTS.

(18) CONTRACTOR SHALL INSTALL CONDUIT AND/OR PIPE BY HORIZONTAL DIRECTIONAL DRILLING (HDD) AS NOTED ON DRAWING. PROVIDE HDD PIT AT START AND END OF HDD. PROVIDE POTHOLE AT ALL LOCATIONS WHERE HDD CROSSES EXISTING UTILITIES PRIOR TO STARTING HDD OPERATIONS. PATCH BACK PIT AND SAW CUT TO MATCH EXISTING. REFER TO UNDERGROUND/TRENCH CONDUIT AND PIPING DETAIL FOR ADDITIONAL REQUIREMENTS.

(19) CONTRACTOR SHALL PROVIDE SAWCUT TRENCH FOR UNDERGROUND UTILITIES IN THIS LOCATION AND HAND DIG TRENCHES WHERE THEY CROSS EXISTING UTILITIES. REFER TO UNDERGROUND/TRENCH CONDUIT AND PIPING DETAIL FOR ADDITIONAL REQUIREMENTS.

(20) CONTRACTOR SHALL SAWCUT TO ALLOW FOR EXCAVATION UNDER ENERGY SERVER AND ANCILLARY PAD LOCATIONS. REFER TO PAD DETAIL FOR ADDITIONAL EXCAVATION AND BACKFILL REQUIREMENTS.

(21) PROTECT EXISTING UNDERGROUND UTILITY LINES FROM DAMAGE WHEN CROSSING WITH NEW UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY DAMAGED LINES.

(22) CONTRACTOR SHALL PROVIDE NEW CONDUIT AND CABLE FROM NEW UTILITY GAS MSA TO CUSTOMER MPOE FOR UTILITY BILLING. REFER TO BLOOM ENERGY PRODUCT INSTALLATION DRAWINGS FOR CONNECTION REQUIREMENTS.

(23) CONTRACTOR SHALL TRANSITION ALL ABOVEGROUND NEW LINES TO UNDERGROUND TOWARD ANCILLARY EQUIPMENT. ABOVE GROUND UTILITIES SHALL BE PROTECTED AS NECESSARY, THEN ROUTED UNDERGROUND TO EQUIPMENT STUB-UP LOCATIONS PER MECHANICAL DETAIL.

(24) PROVIDE "DANDY SACK" OR EQUAL WITH OUTFLOW PORTS AT STORM DRAIN INLET. REFER TO EROSION CONTROL DETAIL FOR ADDITIONAL REQUIREMENTS.

(25) CONTRACTOR SHALL REMOVE EXISTING TREE.

(26) CONTRACTOR SHALL TRIM EXISTING TREES FOR 10'-0" CLEARANCE TO ENERGY SERVER TOP VENTS AND 6'-0" CLEARANCE TO ALL OTHER SURFACES OF ENERGY SERVER.

(27) CONTRACTOR SHALL UNDER-CUT EXISTING CURB FOR TRENCHING UTILITY LINES AND BACKFILL WITH CONCRETE SLURRY. IF CURB IS DAMAGED, REPAIR TO MATCH EXISTING.

Bloom energy

1299 ORLEANS DRIVE
SUNNYVALE, CA 94089

SEAL

CUSTOMER SITE

FED-EX
1152 MIDDLE ST,
MIDDLETOWN, CT 06457

FedEx

REVISION HISTORY

REV	REVISION ISSUE	DATE

DESIGNED BY KATE TAYLOR	DATE 09/01/2017
DRAWN BY SHASHIKUMAR	DATE 09/01/2017
REVIEWED BY	DATE
APPROVED BY	DATE

SHEET TITLE

DETAILED SITE PLAN

DRAWING NUMBER

C1.1

BLOOM DOCUMENT

DOC-1009727

THIS DRAWING IS 24" X 36" AT FULL SIZE

SITE ID: FDX010.0 | SHEET 05 OF 13

Bloomenergy

Exhibit 3

STATE OF CONNECTICUT

DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
PUBLIC UTILITIES REGULATORY AUTHORITY
TEN FRANKLIN SQUARE
NEW BRITAIN, CT 06051

DOCKET NO. 12-02-09 PETITION OF BLOOM ENERGY CORPORATION FOR A DECLARATORY RULING THAT ITS SOLID OXIDE FUEL CELL ENERGY SERVER WILL QUALIFY AS A CLASS I RENEWABLE ENERGY SOURCE

September 12, 2012

By the following Directors:

Arthur H. House
John W. Betkoski, III

DECISION

I. INTRODUCTION

By Petition dated February 14, 2012, pursuant to Section 4-176 in the General Statutes of Connecticut (Conn. Gen. Stat.) and Section 16-1-113 in the Regulations of Connecticut State Agencies, Bloom Energy Corporation requests that the Public Utilities Regulatory Authority (Authority) issue a declaratory ruling that its solid oxide fuel cell energy server qualifies as a Class I renewable energy source.

II. PETITIONER'S EVIDENCE

Bloom Energy Corporation (Bloom) has commercialized a scalable, modular fuel cell using Bloom's patented solid oxide fuel cell (SOFC) technology. A fuel cell is a device that uses a fuel and oxygen to create electricity by an electrochemical process. A single fuel cell consists of an electrolyte and two catalyst-coated electrodes (an anode cathode). Fuel cells are generally categorized by the type of electrolyte used. Petition, pp. 2 and 3.

Each Bloom Energy Server consists of thousands of Bloom's patented SOFCs. Each fuel cell is a flat, solid ceramic square capable of producing at least 25 watts. In an energy server, Bloom "sandwiches" the SOFCs between metal interconnect plates into a fuel cell "stack." Bloom aggregates multiple fuel cell stacks together into a "power module," and then multiple power modules, along with a common fuel input and electrical output, are assembled as a complete energy server fuel cell. Id., p. 3.

The Bloom Energy Server converts the chemical energy contained in fuel, such as natural gas, into electricity at an efficiency of approximately 50% - 60% (lower heating value net AC) without any combustion or multi-stage conversion loss. Fuel entering the energy server is processed using a proprietary catalytic method to yield a reformate gas stream, and the gaseous product and preheated air are introduced into the fuel cell stacks. Within the stacks, ambient oxygen reacts with the fuel to produce direct current (DC) electricity. The DC power produced by the energy server system is converted into 480-volt AC power using an inverter, and delivered to the host facility's electrical distribution system. Id.

SOFCs operate at very high temperatures, obviating the need for expensive metal catalysts. With low cost ceramic materials, and extremely high electrical efficiencies, SOFCs can deliver attractive economies without relying on combined heat and power. Id.

Bloom Energy Servers are a fraction of the size of a traditional base load power source, with each server occupying a space similar to that of a parking space. This small, low-impact, modular form of base load power does not pose the environmental challenges associated with a traditional base load power plant, significantly reducing environmental impacts. Moreover, Bloom's innovative design requires only an initial input of 120 gallons of water per 100 kW, after which no additional water is consumed during normal operation. Id., pp. 3 and 4.

Bloom Energy Servers deliver significant environmental benefits over conventional base load technologies. In addition to significant CO_2 reductions due to its high efficiency, the energy server emits virtually no NO_x, SO_x, or other smog forming particulates since the conversion of gas to electricity in a Bloom Energy Server is done through an electrochemical reaction rather than combustion. Id., p. 4.

III. AUTHORITY ANALYSIS

Conn. Gen. Stat. §16-1(a)(26) defines a Class I renewable energy source as:

> (A) energy derived from solar power; wind power; a fuel cell; methane gas from landfills; ocean thermal power; wave or tidal power; low emission advanced renewable energy conversion technologies; a run-of-the-river hydropower facility provided such facility has a generating capacity of not more than five megawatts, does not cause an appreciable change in the river flow, and began operation after the effective date of this section; or a biomass facility, including, but not limited to, a biomass gasification plant that utilizes land clearing debris, tree stumps or other biomass that regenerates or the use of which will not result in a depletion of resources**,** provided such biomass is cultivated and harvested in a sustainable manner and the average emission rate for such facility is equal to or less than .075 pounds of nitrogen oxides per million BTU of heat input for the previous calendar quarter, except that energy derived from a biomass facility with a capacity of less than five hundred kilowatts that began construction before July 1, 2003, may be considered a Class I renewable energy source, provided such biomass is cultivated and harvested in a sustainable manner; or (B) any electrical generation, including distributed generation, generated from a Class I renewable energy source.

Based on Bloom's assertions, the Authority finds that its Bloom Energy Server qualifies as a Class I renewable energy source "fuel cell" as defined in Conn. Gen. Stat. §16-1(a)(26)(A).

The Authority has created an electronic application process for generation owners to apply for a Connecticut Renewable Portfolio Standards registration. The application is available on the Authority's website at the web address **http://www.ct.gov/pura**. The application should be submitted electronically along with a single hard-copy filing. While the Authority concludes in this Decision that the Bloom Energy Server would qualify as a Class I renewable energy source pursuant to Conn. Gen. Stat. §16-1(a)(26), Bloom must still apply for registration of the aforementioned system once the facility becomes operational and is registered in the New England Generation Information System.

IV. CONCLUSION

Based upon the project as described herein, the Authority finds that, as proposed, the Bloom Energy Server would qualify as a Class I renewable energy source. However, since the energy server is not yet operational, it should apply for Class I registration once it begins operations.

DOCKET NO. 12-02-09 PETITION OF BLOOM ENERGY CORPORATION FOR A DECLARATORY RULING THAT ITS SOLID OXIDE FUEL CELL ENERGY SERVER WILL QUALIFY AS A CLASS I RENEWABLE ENERGY SOURCE

This Decision is adopted by the following Directors:

Arthur H. House

John W. Betkoski, III

CERTIFICATE OF SERVICE

The foregoing is a true and correct copy of the Decision issued by the Public Utilities Regulatory Authority, State of Connecticut, and was forwarded by Certified Mail to all parties of record in this proceeding on the date indicated.

September 12, 2012

Kimberley J. Santopietro
Executive Secretary
Department of Energy and Environmental Protection
Public Utilities Regulatory Authority

Date

60906902 V1-WORKSITEUS-029819/0002

Bloomenergy

Exhibit 4

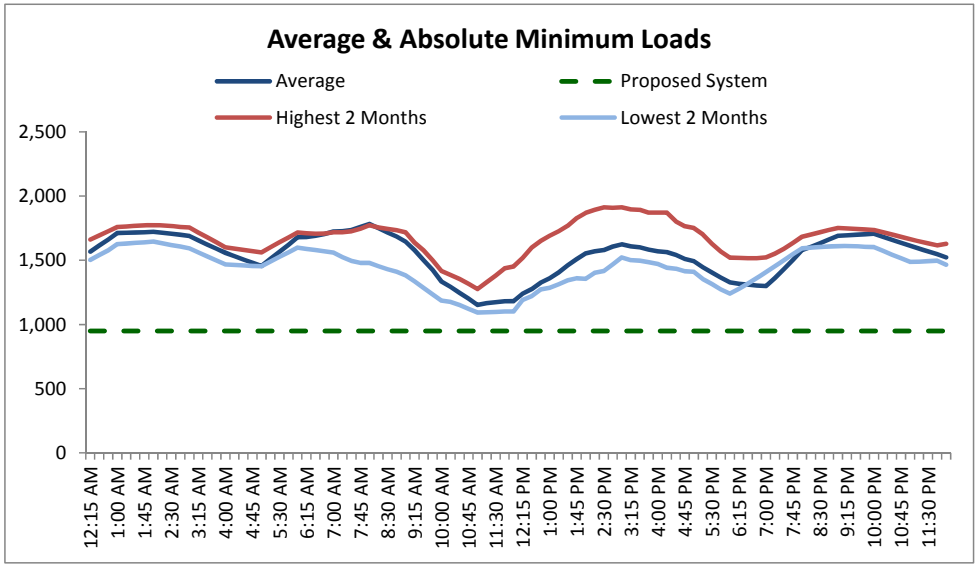
Figure 9: Interval Data Analysis

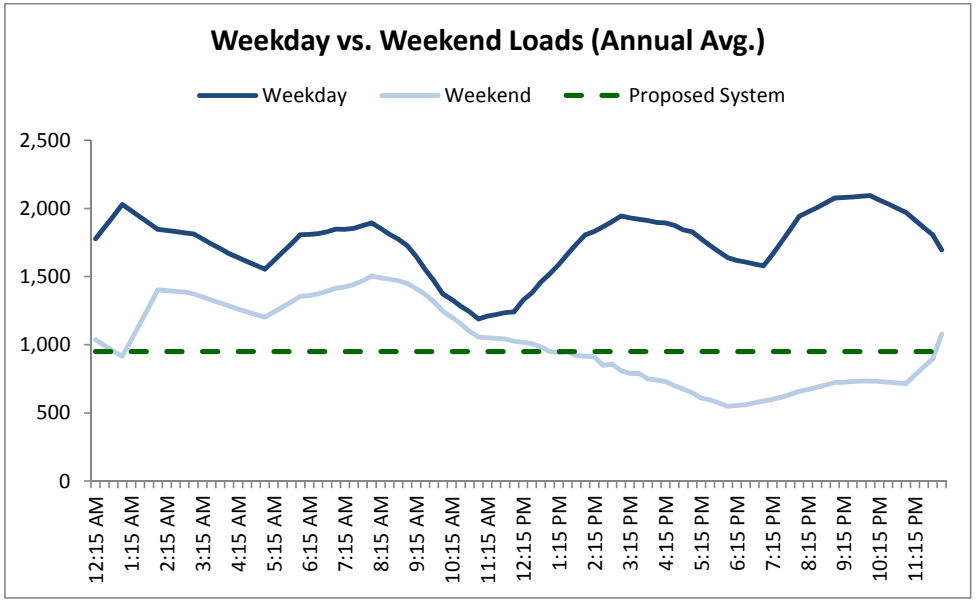
From Representative site 'Fedex Woodbridge'

INPUTS		
BE Output Factor	95%	
Select Utility ----->	PG&E	
Customer Name	FedEx	Woodbridge
Utility Account Number		
Meter Number		

Absolute Minimum kW	***-714***	***kW***
Recurring Minimum Baseload	***314***	***kW***
Average Baseload	***915***	***kW***
Proposed System Size*	***1,000***	***kW***

SYSTEM DETAILS		
% Exported	7.81%	
% of Load Offset	57%	
Utility Exports		
Peak Hours	*131,214*	*kWh*
Partial Peak Hours	*377,467*	*kWh*
Off-Peak Hours	*272,138*	*kWh*
Total kWh Exported	*649,605*	*kWh*
CUSTOMER DETAILS		
Total Days of Data	364	
Annual Load Factor	82%	
Total Customer Usage	13,487,566	kWh
Average Hourly kWh	1,540	kWh
Daily Avg. Peak Demand	2,222	kW





Bloomenergy

Exhibit 5

Bloomenergy®

Energy Server 5

Clean, Reliable, Affordable Energy

CLEAN, RELIABLE POWER ON DEMAND

The Energy Server 5 delivers clean power that reduces emissions and energy costs. The modular architecture enables the installation to be tailored to the actual electricity demand, with a flexibility to add servers as the load increases. The Energy Server 5 actively communicates with Bloom Energy's network operations centers so system performance can be monitored 24 hours per day, 365 days per year.

INNOVATIVE TECHNOLOGY

Utilizing solid oxide fuel cell (SOFC) technology first developed for NASA's Mars program, the Energy Server 5 produces clean power at unprecedented efficiencies, meaning it consumes less fuel and produces less CO_2 than competing technologies. Additionally, no water is needed under normal operating conditions.

ALL-ELECTRIC POWER

The Energy Server 5, which operates at a very high electrical efficiency, eliminates the need for complicated and costly CHP systems. Combining the standard electrical and fuel connections along with a small footprint and sleek design, the Energy Server 5 is the most deployable fuel cell solution on the market.

CONTROLLED AND PREDICTABLE COST

By providing efficient on-site power generation, the economic and environmental benefits are central to the Energy Server 5 value proposition. Bloom Energy customers can lock in their long term energy costs and mitigate the risk of electricity rate increases. The Energy Server 5 has been designed in compliance with a variety of safety standards and is backed by a comprehensive warranty.

About Bloom Energy

Bloom Energy is making clean, reliable energy affordable. Our unique on-site power generation systems utilize an innovative fuel cell technology with roots in NASA's Mars program. By leveraging breakthrough advances in materials science, Bloom Energy systems are among the most efficient energy generators, providing for significantly reduced operating costs and dramatically lower greenhouse gas emissions. Bloom Energy Servers are currently producing power for many Fortune 500 companies including Apple, Google, NSA, Walmart, AT&T, eBay, Staples, as well as notable non-profit organizations such as Caltech and Kaiser Permanente.

Headquarters:
Sunnyvale, California

For More Information:
www.bloomenergy.com

Energy Server 5

Technical Highlights (ES5-AA2AAA)	
Outputs	
Nameplate power output (net AC)	262.5 kW
Base load output (net AC)	250 kW
Electrical connection	480 V, 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)*	65-53%
Heat rate (HHV)	5,811-7,127 Btu/kWh
Emissions	
NOx	< 0.01 lbs/MWh
SOx	Negligible
CO	< 0.05 lbs/MWh
VOCs	< 0.02 lbs/MWh
CO_2 @ stated efficiency	679-833 lbs/MWh on natural gas; carbon neutral on directed biogas
Physical Attributes and Environment	
Weight	13.6 tons
Dimensions (variable layouts)	14' 9" x 8' 8" x 7' 0" or 29' 4" x 4' 5" x 7' 5"
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	

* 65% LHV efficiency verified by ASME PTC 50 Fuel Cell Power Systems Performance Test

Bloomenergy®

Bloom Energy Corporation
1299 Orleans Drive
Sunnyvale CA 94089
T 408 543 1500
www.bloomenergy.com

Bloomenergy®

Energy Server 5

Clean, Reliable, Affordable Energy

CLEAN, RELIABLE POWER ON DEMAND

The Energy Server 5 delivers clean power that reduces emissions and energy costs. The modular architecture enables the installation to be tailored to the actual electricity demand, with a flexibility to add servers as the load increases. The Energy Server 5 actively communicates with Bloom Energy's network operations centers so system performance can be monitored 24 hours per day, 365 days per year.

INNOVATIVE TECHNOLOGY

Utilizing solid oxide fuel cell (SOFC) technology first developed for NASA's Mars program, the Energy Server 5 produces clean power at unprecedented efficiencies, meaning it consumes less fuel and produces less CO_2 than competing technologies. Additionally, no water is needed under normal operating conditions.

ALL-ELECTRIC POWER

The Energy Server 5, which operates at a very high electrical efficiency, eliminates the need for complicated and costly CHP systems. Combining the standard electrical and fuel connections along with a small footprint and sleek design, the Energy Server 5 is the most deployable fuel cell solution on the market.

CONTROLLED AND PREDICTABLE COST

By providing efficient on-site power generation, the economic and environmental benefits are central to the Energy Server 5 value proposition. Bloom Energy customers can lock in their long term energy costs and mitigate the risk of electricity rate increases. The Energy Server 5 has been designed in compliance with a variety of safety standards and is backed by a comprehensive warranty.

About Bloom Energy

Bloom Energy is making clean, reliable energy affordable. Our unique on-site power generation systems utilize an innovative fuel cell technology with roots in NASA's Mars program. By leveraging breakthrough advances in materials science, Bloom Energy systems are among the most efficient energy generators, providing for significantly reduced operating costs and dramatically lower greenhouse gas emissions. Bloom Energy Servers are currently producing power for many Fortune 500 companies including Apple, Google, NSA, Walmart, AT&T, eBay, Staples, as well as notable non-profit organizations such as Caltech and Kaiser Permanente.

Headquarters:
Sunnyvale, California

For More Information:
www.bloomenergy.com

Energy Server 5

Technical Highlights (ES5-EA2AAA)	
Outputs	
Nameplate power output (net AC)	250 kW
Base load output (net AC)	250 kW
Electrical connection	480 V, 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)*	65-53%
Heat rate (HHV)	5,811-7,127 Btu/kWh
Emissions	
NOx	< 0.01 lbs/MWh
SOx	Negligible
CO	< 0.05 lbs/MWh
VOCs	< 0.02 lbs/MWh
CO_2 @ stated efficiency	679-833 lbs/MWh on natural gas; carbon neutral on directed biogas
Physical Attributes and Environment	
Weight	13.6 tons
Dimensions (variable layouts)	14' 9" x 8' 8" x 7' 0" or 29' 4" x 4' 5" x 7' 5"
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	

* 65% LHV efficiency verified by ASME PTC 50 Fuel Cell Power Systems Performance Test

Bloomenergy®

Bloom Energy Corporation
1299 Orleans Drive
Sunnyvale CA 94089
T 408 543 1500
www.bloomenergy.com

Bloomenergy

Exhibit 6

Bloomenergy™

Fire Prevention and Emergency Planning

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

Table of Contents

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.

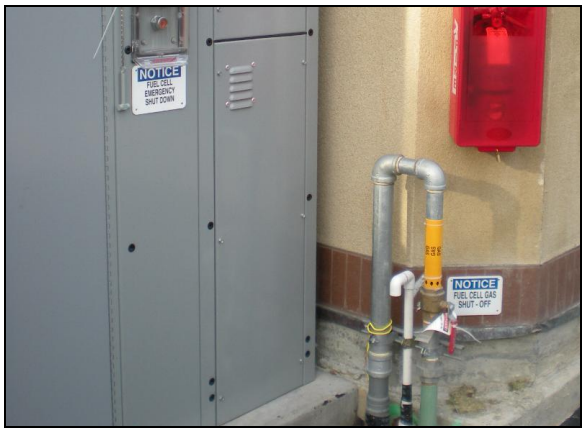


Figure 3: Manual Natural Gas Valve

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

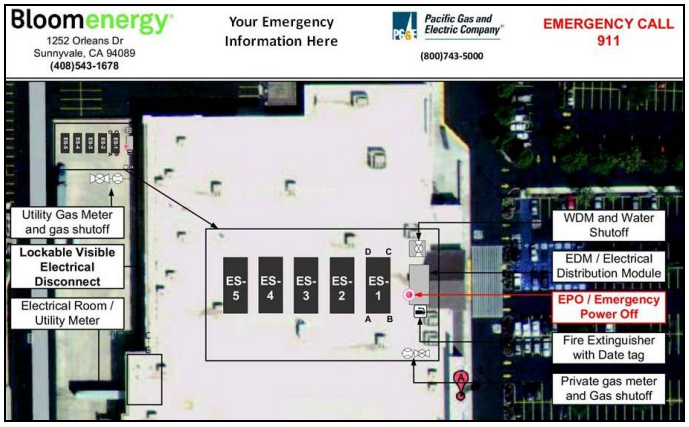


Figure 4: Sample Site Map

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.

Bloomenergy

Exhibit 7

Calculation of **Yuma** Sound Pressure Based On Distance

By Bob Hintz 1/16

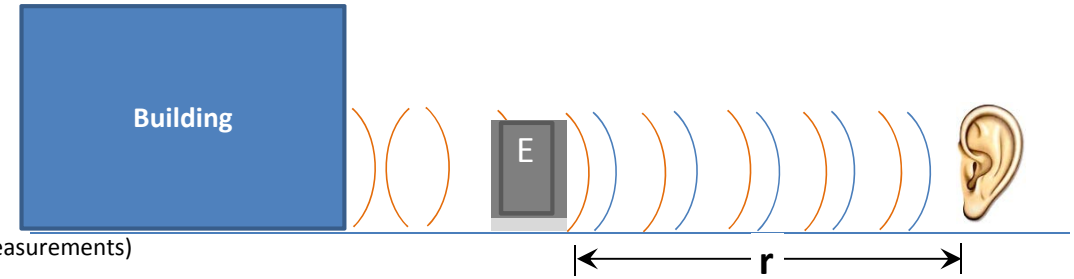
All calculations are based on the following formula for sound pressure level (L_P):

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

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

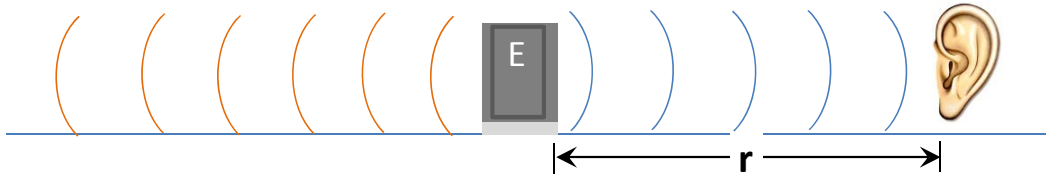


L_P =	**37.3** dB	
Where:		
L_W =	86.4 dB	ES sound power (Calc. from measurements)
Q =	4	Directivity factor
r =	530 Feet	**Enter value here for both Scenarios**

Input verious values for r to approximate the percieved 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 =	**34.3** dB	
Where:		
L_W =	86.4 dB	ES sound power (Calc.)
Q =	2	Directivity factor
r =	530 Feet	

Input verious values for r to approximate the percieved sound pressure at that distance from the ES door

Bloomenergy

Exhibit 8

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

Municipal and Elected Officials

STATE							
Doyle	Paul	State Senator, 9th	State of Connecticut	Legislative Office Building, Room 2500	Hartford	CT	06106
Suzio	Len	State Senator, 13th	State of Connecticut	Legislative Office Building, Room 3501	Hartford	CT	06106
Gerratana	Terry	State Senator, 6th	State of Connecticut	Legislative Office Building, Room 3000	Hartford	CT	06106
Lesser	Matthew	State Representative	State of Connecticut	Legislative Office Building, Room 3001	Hartford	CT	06106
Serra	Joseph	State Representative, 100th	State of Connecticut	Legislative Office Building, Room 4021	Hartford	CT	06106
Aresimowicz	Joe	State Representative, 30th	State of Connecticut	Legislative Office Building, Room 4105	Hartford	CT	06106
Abercrombie	Catherine	State Representative, 83rd	State of Connecticut	Legislative Office Building, Room 2002	Hartford	CT	06106
Carpino	Christie	State Representative, 32nd	State of Connecticut	Legislative Office Building	Hartford	CT	06106
Larson	John	United States Congressman	United States of America	59 Elm Street	New Haven	CT	06510
DeLauro	Rosa	United States Congressman	United States of America	59 Elm Street	New Haven	CT	06510
Murphy	Christopher	United States Senator	United States of America	One Constitution Plaza, 7th Floor	Hartford	CT	06103
Blumenthal	Richard	United States Senator	United States of America	90 State House Square	Hartford	CT	06103

Klee	Robert	Commissioner	State Department of Energy and Environmental Protection	79 Elm Street	Hartford	CT	06106
Pino	Raul	Commissioner	State Department of Public Health	410 Capitol Avenue	Hartford	CT	06134
Merrow	Susan	Chair	State Council on Environmental Quality	79 Elm Street	Hartford	CT	06106
Reviczky	Steven	Commissioner	State Department of Agriculture	165 Capitol Avenue	Hartford	CT	06106
Barnes	Benjamin	Secretary	Office of Policy and Management	450 Capitol Avenue	Hartford	CT	06106
Smith	Catherine	Commissioner	State Department of Economic and Community Development	450 Capitol Boulevard	Hartford	CT	06103
Gold	Samuel	Executive Director	River COG	145 Dennison Road	Essex	CT	06426
Jepsen	George	Attorney General	Office of the Attorney General	55 Elm Street	Hartford	CT	06106
Dykes	Katie	Chairman	Department of Public Utility Regulatory Authority	10 Franklin Square	New Britain	CT	06105
Redeker	James	Commissioner	Department of Transportation	2800 Berlin Turnpike	Newington	CT	06111
Hacket	William	Deputy Commissioner	Division of Emergency Management and	25 Sigourney Street, 6th Floor	Hartford	CT	06106

			Homeland Security				
Harris	Jonathan	Commissioner	Department of Consumer Protection	165 Capitol Ave #3	Hartford	CT	06106
Currey	Melody	Commissioner	Department of Administrative Services	165 Capitol Ave #3	Hartford	CT	06106
Jackson	Scott	Commissioner	Department of Labor	200 Folly Brook Boulevard	Weathersfield	CT	06109
MIDDLETOWN							
Drew	Daniel	Mayor	City of Middletown	245 deKoven Drive	Middletown	CT	06457
Reed	Linda	Zoning Enforcement Officer	City of Middletown	246 deKoven Drive	Middletown	CT	06457
Lisitano	Dean	Chief Building Official	City of Middletown	247 deKoven Drive	Middletown	CT	06457
Samolis	Joseph	Director of Planning and Conservation and Development	City of Middletown	247 deKoven Drive	Middletown	CT	06457
Bauer	David	Conservation Commission	City of Middletown	247 deKoven Drive	Middletown	CT	06457
Carta	Joseph	Inland Wetland and Watercourses Agency	City of Middletown	247 deKoven Drive	Middletown	CT	06457
CROMWELL							
Salvatore	Anthony	Town Manager	Town of Cromwell	41 West Street	Cromwell	CT	06416
Jolley	David	Chief Building Official	Town of Cromwell	41 West Street	Cromwell	CT	06416
Popper	Stuart	Director of Planning and Devlopment	Town of Cromwell	41 West Street	Cromwell	CT	06416
Curtin	Fred	Development Compliance Officer	Town of Cromwell	41 West Street	Cromwell	CT	06416
Popper	Stuart	Conservation Commission	Town of Cromwell	41 West Street	Cromwell	CT	06416

Popper	Stuart	Inland Wetland and Watercourses	Town of Cromwell	41 West Street	Cromwell	CT	06416
BERLIN							
Healy	Jack	Interim Town Manager	Town of Berlin	240 Kensington Road	Berlin	CT	06037
Van Linter	Frank	Building Official	Town of Berlin	240 Kensington Road	Berlin	CT	06037
Giusti	Maureen	Zoning Enforcement Officer	Town of Berlin	240 Kensington Road	Berlin	CT	06037
Riggins	Hellyn	Development Services Director	Town of Berlin	240 Kensington Road	Berlin	CT	06037
Horbal	James	Agent for the Inland Wetlands Commission	Town of Berlin	240 Kensington Road	Berlin	CT	06037
Riggins	Hellyn	Conservation Commission	Town of Berlin	240 Kensington Road	Berlin	CT	06037

Abutter Properties

Property ID	Property Address	Property Town	Owner	Owner Mailing Address	Town	State	Zip
16743	INDUSTRIAL PARK RD.	MIDDLETOWN	FEDEX GROUND PACKAGE SYSTEMS INC.	1000 FEDEX DR.	MOON TOWNSHIP	PA	15108
375	930 MIDDLE ST.	MIDDLETOWN	AETNA LIFE & INSURANCE CO.	C/O BRUCE M. FRAISTAT 151 FARMINGTON AVE. RTB1	HARTFORD	CT	06156
16742	INDUSTRIAL PARK RD.	MIDDLETOWN	FEDEX GROUND PACKAGE SYSTEMS INC.	1000 FEDEX DR.	MOON TOWNSHIP	PA	15108
617	362 INDUSTRIAL PARK RD	MIDDLETOWN	L J SAKON LLC	362 INDUSTRIAL PARK RD. UNIT 1	MIDDLETOWN	CT	06457
768	362 INDUSTRIAL PARK RD	MIDDLETOWN	ALHSCONDOR LLC	363 INDUSTRIAL PARK RD. UNIT 2	MIDDLETOWN	CT	06457
854	362 INDUSTRIAL PARK RD	MIDDLETOWN	ELLENAIM LLC	364 INDUSTRIAL PARK RD. UNIT 3	MIDDLETOWN	CT	06457

1094	362 INDUSTRIAL PARK RD	MIDDLETOWN	GML HOLDINGS LLC	PO BOX 737	MIDDLETOWN	CT	06457
856	362 INDUSTRIAL PARK RD	MIDDLETOWN	IN STORE OPPURTUNITIES INC	362 INDUSTRIAL PARK RD. UNIT 5	MIDDLETOWN	CT	06457
853	362 INDUSTRIAL PARK RD	MIDDLETOWN	SOLUTION GROUP LLC	217 FARMINGTON AVE	FAIRFIELD	CT	06825
1134	362 INDUSTRIAL PARK RD	MIDDLETOWN	NXEGEN INC.	362 INDUSTRIAL PARK RD. UNIT 7	MIDDLETOWN	CT	06457
855	362 INDUSTRIAL PARK RD	MIDDLETOWN	BRAEMAR PROPERTIES LLC	7 HARKINS LANE	MERIDEN	CT	06450
773	362 INDUSTRIAL PARK RD	MIDDLETOWN	GAETAN G. & SUSAN J. LACHANCE	116 BAR GATE TRAIL	KILLINGWORTH	CT	06419
553	333 INDUSTRIAL PARK RD.	MIDDLETOWN	ASPEN HOLDINGS LLC	333 INDUSTRIAL PARK RD.	MIDDLETOWN	CT	06457
666	INDUSTRIAL PARK	MIDDLETOWN	ROSCOMMON INFINITY, LLC & MK ROSCOMMON GROUP, LLC	184 FERN AVE.	LITCHFIELD	CT	06759
1289	MIDDLE ROAD	MIDDLETOWN	CITY OF MIDDLETOWN	245 DEKOVEN DR.	MIDDLETOWN	CT	06457
846	929 MIDDLE ST.	MIDDLETOWN	WILLIAM ROBERT McINERNEY & JUDITH ANN CECCHINI	929 MIDDLE ST.	MIDDLETOWN	CT	06457
911	975 MIDDLE ST.	MIDDLETOWN	P INC LLC	17 TURNBERRY RD.	WALLINGFORD	CT	06492
9058	1001 MIDDLE ST.	MIDDLETOWN	DAWN H. WEATHERSBY	1001 MIDDLE ST.	MIDDLETOWN	CT	06457
14820	35 PHILMACK DR.	MIDDLETOWN	M INC LLC	17 TURNBERRY RD.	WALLINGFORD	CT	06492
7658	1011 MIDDLE ST.	MIDDLETOWN	MICHAEL & LISA ZONA	1011 MIDDLE ST.	MIDDLETOWN	CT	06457
1891	1021 MIDDLE ST.	MIDDLETOWN	ROSALYN M. AMENTA (1/2 INT) & BEVERLY A. BOSSE (1/2 INT)	1021 MIDDLE ST.	MIDDLETOWN	CT	06457
10512	1035 MIDDLE ST.	MIDDLETOWN	ROBERT T. & JOYCE L. DEZI	1035 MIDDLE ST.	MIDDLETOWN	CT	06457
1095	1055 MIDDLE ST.	MIDDLETOWN	SOUTHERN NEW ENGLAND TELEPHONE CO. & FRONTIER COMMUNICATIONS	401 MERRITT - TAX DEPT.	NORWALK	CT	06851
910	MIDDLE ST.	MIDDLETOWN	FLETCHCO LLC	17 TURNBERRY RD.	WALLINGFORD	CT	06492

385	MIDDLE ST.	MIDDLETOWN	NADEKA LLC	39 HARVEST WOOD LA.	HIGGANUM	CT	06441
386	1125 MIDDLE ST.	MIDDLETOWN	MIDDLE STREET LLC	C/O LAURA ROMAN 1125 MIDDLE ST.	MIDDLETOWN	CT	06457
5094	MIDDLE ST.	MIDDLETOWN	SHARED DREAMS REALTY, LLC	351 WEST ST.	HEBRON	CT	06248
4607	1184 MIDDLE ST.	MIDDLETOWN	DAVID E. DUCKIE	1184 MIDDLE ST.	MIDDLETOWN	CT	06457
23-2-152-9	505 MAIN ST. EB	BERLIN	CHRISTOPHER & NANCY P. CASEY	505 MAIN ST.	E. BERLIN	CT	06023
23-2-152-11	39 DIVISION ST.	BERLIN	SYLVIA O. KIRBY	39 DIVISION ST.	E. BERLIN	CT	06024
23-2-152-12	53 DIVISION ST.	BERLIN	ZACHARY A. & SARAH B. LOVE	53 DIVISION ST.	E. BERLIN	CT	06025
23-2-152-13	65 DIVISION ST.	BERLIN	RICHARD J. & ROBYN L. COP	65 DIVISION ST.	E. BERLIN	CT	06026
23-2-152-14	77 DIVISION ST.	BERLIN	JOSEPH A. AYOTTE	77 DIVISION ST.	E. BERLIN	CT	06027
23-2-152-15	93 DIVISION ST.	BERLIN	ANNA RODZIEWICZ	93 DIVISION ST.	E. BERLIN	CT	06028
23-2-152-15A	109 DIVISION ST.	BERLIN	MARIO D. VINCENZO	109 DIVISION ST.	E. BERLIN	CT	06029
00179600	161 BERLIN RD.	CROMWELL	INFINITY CROMWELL PROP. LTD. PAR.	C/O WS ASSET MANAGEMENT INC 33 BOYLSTON ST. SUITE 3000	CHESTNUT HILL	MA	02467
00115300	9 KIRBY RD.	CROMWELL	CARLOS A. MOUTA	1429 PARK ST. SUITE 205	HARTFORD	CT	06106
00412000	1 KIRBY RD.	CROMWELL	ONE KRIBY ROAD C LLC	30 ARBOR ST. SUITE 106	HARTFORD	CT	06107
00554200	127 BERLIN RD.	CROMWELL	PKP INTEREST LLC	4 MORGAN PL.	AVON	CT	06001
00384400	35 KIRBY RD.	CROMWELL	ALVIN N. & RONALD J. RAVIZZA	158 SEBETHE DR.	CROMWELL	CT	06416
00526600	121 BERLIN RD.	CROMWELL	AKS HOSPITALITY LLC	1 INDUSTRIAL PARK RD.	CROMWELL	CT	06416

Bloomenergy

VIA CERTIFIED MAIL

10/11/2017

RE: Application for Bloom Energy, as agent for FedEx Ground, for the construction of four (4) new ES-5 Bloom Energy Server solid oxide fuel cell and an auxiliary battery system which would provide 1-megawatt (max) of Customer-Side Distributed Resource at – 1152 Middle Street, Middletown, CT.

Dear Ladies and Gentlemen:

Pursuant to Section §16-50j-40 of the Connecticut Siting Council's (the "Council") regulations, we are notifying you that FedEx Ground intends to file in the next two weeks a petition for declaratory ruling with the Council. The petition will request the Council's approval of the location and construction of a 1-megawatt (MW) fuel cell and associated equipment. The Facility will be located on the site of the Home Depot building at 1152 Middle Street, Middletown, Connecticut (the "Site").

The purpose of the proposed Facility is to replace the average baseload of the building with a renewable energy source[1] 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

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

Bloomenergy

Exhibit 9

Justin Adams

From: Justin Adams
Sent: Friday, October 06, 2017 10:04 AM
To: 'joseph.samolis@middletownct.gov'
Subject: Bloom Energy Fuel Cell - FedEx Ground
Attachments: FDX010.0_Permit Set_20170904 11x17.pdf

Hello,

On behalf of Bloom Energy we would like to provide you with information pertaining to the proposed clean energy server installation project located at the.

This project proposes to install four (4) new Bloom Energy Servers; a new class of distributed power generator which produces clean, reliable and affordable electricity at the customer site. The proposed project will request the Connecticut Siting Council's approval of the location and construction of a 1-megawatt Bloom Energy Corporation fuel cells and associated equipment at the FedEx Ground 1152 Middle Street, Middletown, CT. 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.).

The purpose of the proposed project is to replace the average baseload of the Frontier facility with a Class I renewable energy source and improve reliability of electrical systems and equipment. The Bloom equipment has been designed in compliance with Underwriters Laboratories (UL) in addition to various safety standards and requirements. There are no harmful off-gases or byproducts that will be produced by this equipment.

Please note that the energy server is monitored 24 hours a day, 7 days a week by Bloom Energy's communications network in Sunnyvale, CA with a back-up monitoring station in India. In the unlikely event the system will require attention, the system can be remotely shut off by Bloom. Additionally, the equipment will have several means to shut down the energy server locally.

We are submitting to the Connecticut Siting Council within the next two weeks and wanted to give you an opportunity to see the plans in advance. We would be happy to discuss any comments you may have either by phone or in person. 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 me.

Justin Adams
Lead Permitting Specialist

Bloomenergy
Connecticut
860.839.8373
justin.adams@bloomenergy.com