

March 29, 2024

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

RE: Bloom Energy Corporation, **Notice of Exempt Modification** *Pursuant to RCSA 16-50j-57(a)* to Existing Fuel Cell Energy Facility Site at The Home Depot, 541 Kings Highway Cutoff, Fairfield, CT 06824 ("Notice of Exempt Modification")

Dear Ms. Bachman:

This letter is to herby notify the Connecticut Siting Council of Bloom Energy Corp.'s intent to undertake an exempt modification, in accordance with Section 16-50f-57(a) of the Regulations of Connecticut State Agencies ("RCSA"), for the necessary upgrade to Bloom's fuel cell energy server system at **The Home Depot, located at 541 Kings Highway Cutoff, Fairfield, CT 06824**

Proposed Modification

The existing facility consists of one (1) 200kw Bloom Energy ES-5700 Energy Server, now reaching the end of its service life. Specifications for the existing equipment and new equipment to be installed are provided in Attachment 1. As-builts showing the existing facility layout is shown in Attachment 2. There will be no changes to the site footprints, layouts, or utility routing as Bloom plans to replace all components in kind.

Bloom Energy proposes the following modifications to the facility:

- 1. Disconnect existing servers from the natural gas source, water source, supervisory control and data acquisition, and electricity systems.
- 2. Remove the existing fuel cell servers.
- 3. Install one (1) current generation fuel cell server (Model No. ES5-1650US0301S-NASY4N-0) on existing concrete pad or skid at the site (direct replacement in kind).
- 4. Install new server repower components.

The proposed modification would not have a substantial adverse environmental effect or cause a significant adverse change or alteration in the physical or environmental characteristics of the facility because:





- a. The modification does not extend the boundaries of the site beyond the existing compound and will not impair the structural integrity of the facility.
- b. The modification does not increase the height of the existing associated equipment.
- c. The modification will not increase noise levels at the site boundary or to levels that exceed state and local criteria.
- d. Electric and magnetic field levels at the site will not be affected by the modifications due to low or no change in export of power from site.
- e. No endangered, threatened, or sensitive species are within the vicinity of the facility per NDDB.
- f. The modifications would not affect any waterways or wetlands and the facility is not located in a flood zone.

Construction start is expected to begin on September 1st, 2024 and will be completed within 4-6 weeks.

Bloom will provide the Council with an original and two copies of this notice, including the required \$625 filing fee. A copy of this notice will also be provided to the Town of Fairfield Mayor and the property owners representative, Colin Holloway via electronic mail.

Please let us know if you have any questions or require additional information regarding this notification. Thank you.

Respectfully,

Kristen Grillo

Senior Permitting Specialist | East Coast Field Office

Customer Installations Group | North America

(917) 803-4511

Kristen.Grillo@bloomenergy.com

CC: William A. Gerber, Town of Fairfield Mayor

Colin Holloway, The Home Depot





Bloomenergy®

ES-5700

Clean, Reliable, Affordable Energy



CLEAN, RELIABLE POWER ON DEMAND

Bloom Energy's ES-5700 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 ES-5700 actively communicates with Bloom Energy's network operations centers so system performance can be monitored and maintained 24 hours per day, 365 days per year.

INNOVATIVE TECHNOLOGY

Utilizing patented solid oxide fuel cell (SOFC) technology, the ES-5700 produces combustion-free 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 ES-5700, 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 compact footprint and sleek design, the ES-5700 is the most deployable fuel cell on the market.

CONTROLLED AND PREDICTABLE COST

By providing efficient on-site power generation, the economic and environmental benefits are central to the ES-5700 value proposition. Bloom Energy customers can lock in their long term energy costs and mitigate the risk of electricity rate increases. The ES-5700 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, 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

ES-5700

Outputs				
Nameplate power output (net AC)	210 kW			
Base load output (net AC)	200 kW			
Electrical connection	480 V, 3-phase, 60 Hz			
Inputs				
Fuels	Natural gas, directed biogas			
Input fuel pressure	15 psig			
Water	None during normal operation			
Efficiency				
Cumulative electrical efficiency (LHV net AC)	52-60%			
Heat rate (HHV)	6,295-7,264 Btu/kWh			
Emissions				
NOx	< 0.01 lbs/MWh			
S0x	Negligible			
CO	< 0.10 lbs/MWh			
VOCs	< 0.02 lbs/MWh			
CO ₂ @ stated efficiency	735-849 lbs/MWh on natural gas;			
	carbon neutral on directed biogas			
Physical Attributes and Environment				
Weight	19.4 tons			
Dimensions	26' 5" x 8' 7" x 6' 9"			
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				
Product listed by Underwriters Laboratories Inc. (UL) to ANSI/CSA America FC 1-2004				
Additional Notes				
Access to a secure website to monitor system performance & environmental benefits				

Bloomenergy°

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

Bloomenergy®

Energy Server 5.5

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

PRODUCT DATASHEET



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



Clean

Our systems produce near zero criteria pollutants (NOx, SOx, 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 5.5	Technical Highlights (ES5-1650US0301S-NASY14-0)
Outputs	
Nameplate power output (net AC)	165kW
Load output (net AC)	165kW
Electrical connection	480V, 3-phase, 60Hz
Inputs	
Fuels	Natural gas
Input fuel pressure	12-18 psig (15 psig nominal)12-18 psig (15 psig nominal)Natural gas
Water	None during normal operation
Efficiency	
Cumulative electrical efficiency (LHV net AC) ¹	65-53%
Heat rate (HHV)	5,811 - 7,127 Btu/kWh
Emissions ²	
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	9.9 tons
Dimensions (variable layouts)	10'9" x 8'8" x 7'0" or 21'6" x 4'4" x 6'9"
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 IEEE 1547 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

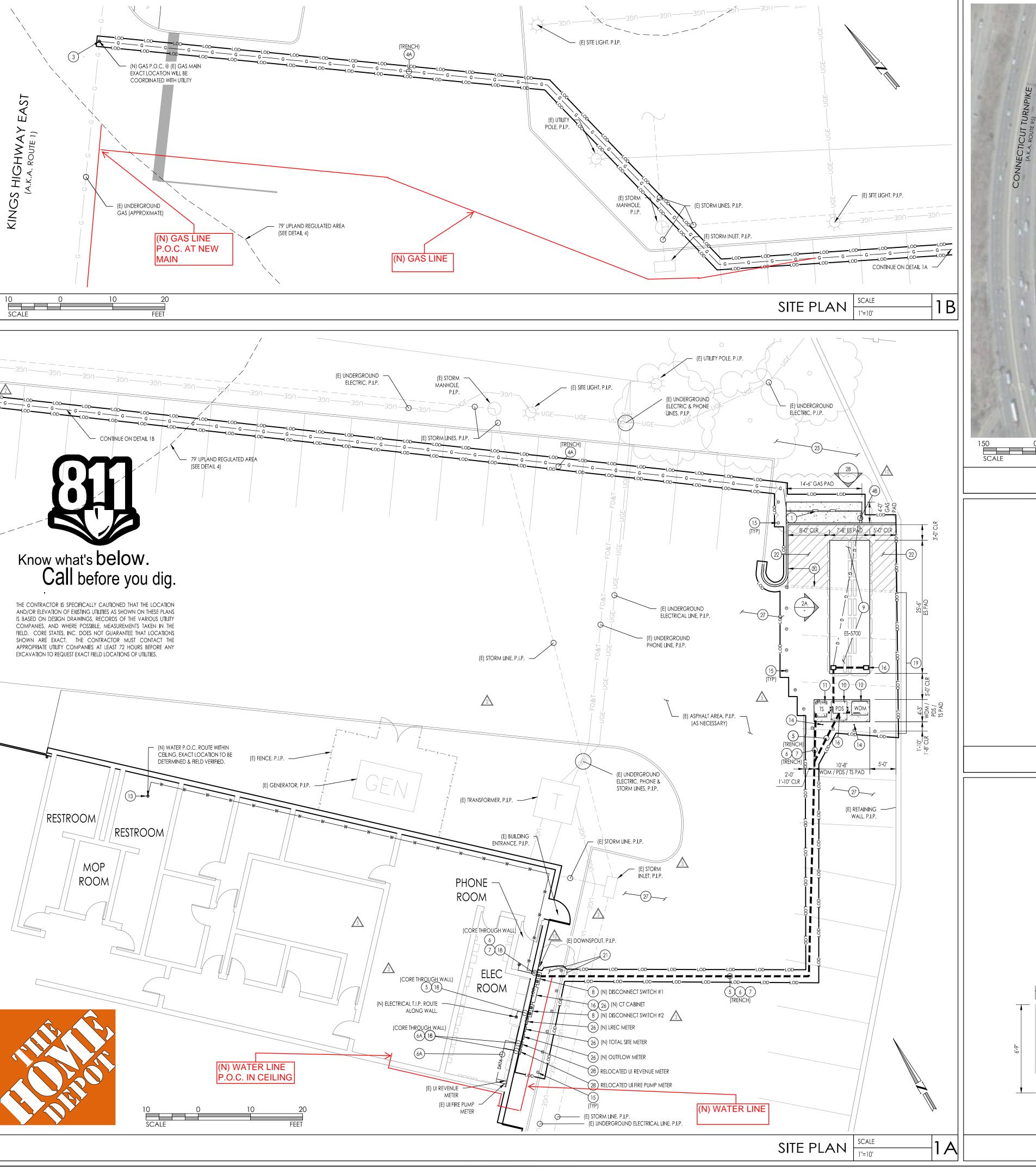
² NOx and CO measured per CARB Method 100, VOCs measured as hexane by SCAQMD Method 25.3

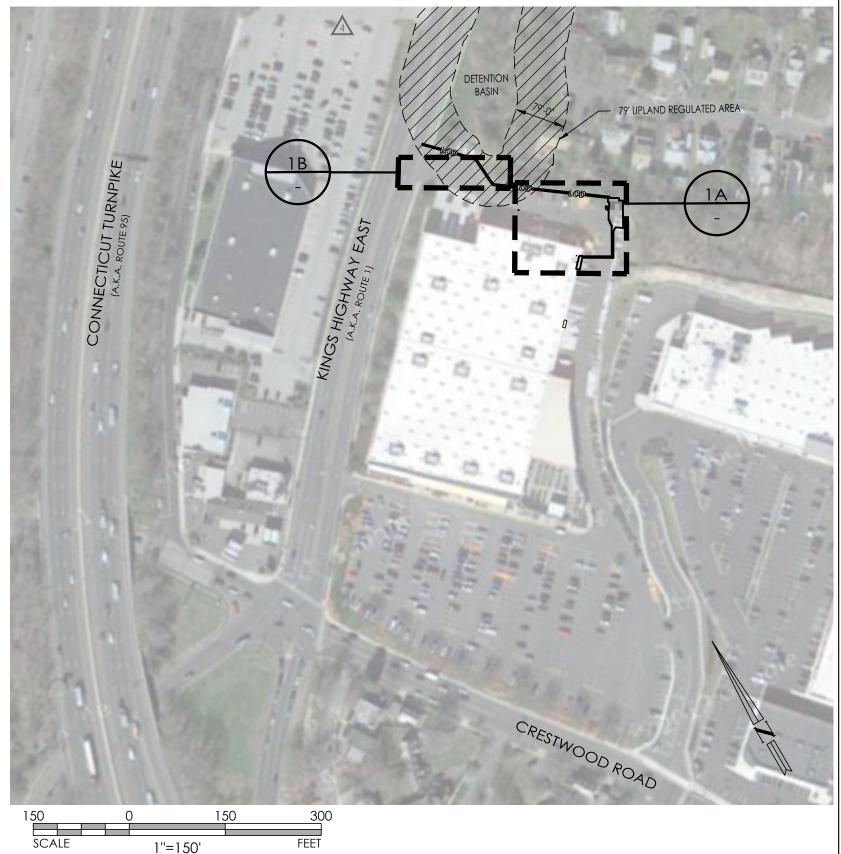
About Bloom Energy

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.









OVERALL SITE PLAN SCALE 1"=150'-0"

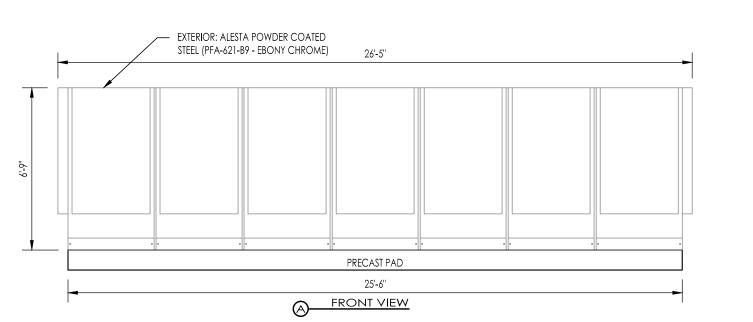
	SY	STEM	
Output Power	210 kW	Total System Weight	39,050 lbs
Voltage	480 VAC	Weight - Fuel Cell Power Module x 6	5,700 lbs
Maximum Output Current	252 Amps	Weight - Input/Output Module x 1	4,850 lbs
Frequency	60 Hz	Weight - Concrete Pad	22,160 lbs
	FUEL REG	QUIREMENTS	
Connection	1" FNPT	Pressure	15 (+3/-1) PSIG
Fuel Type	Natural Gas	Max Consumption Rate (60F, 1atm)	2MMBtu/hr
Connection Quality	1/2" MNPT Municipal Grade	Flow - Startup Flow - Continuous	< 0.8 gal/min 0 gal/min
Connection		QUIREMENTS Flow Startup	< 0.8 gal/min
Minimum Pressure	30 PSI	Water Discharge	0 gal/min
Low Volta	age	REQUIREMENTS High Voltage	
Connection - ISP& DATA	RJ-45 Female	Connection - Power	3 Phase, 480VAC
Cable Type	CAT-5e	Cable Type	3 Wire + Gnd
Speed	70 Kbps/each	Cable Size - Power	400 KCMIL
Conduit Size	1"	Cable Size - Ground	1/0 AWG
		Conduit Size	3"
Connection - Heater Tape	120VAC		
Connection realer rape			
Cable Type:	12/3 AWG		

BLOOMENERGY ES-5700 SPECIFICATION

BLOOMENERGY SPECIFICATIONS | SCALE | NTS PRECAST PAD

B SIDE VIEW

7'-8"



TYP. ELEV. OF BLOOMENERGY ES UNIT SCALE 1/4" = 1'-0"

RESPONSIBILITY NOTES

- THE FOLLOWING EQUIPMENT SHOWN ON THESE PLANS WILL BE PROVIDED AND DELIVERED BY BLOOM ENERGY. APPLICABLE TRADES TO MOUNT AND MAKE FINAL CONNECTIONS: - WATER DEIONIZATION MODULE (WDM) - POWER DISTRIBUTION SECTION (PDS) - TELEMETRY SECTION (TS) - SIGNAGE (SEE SAFETY SIGNAGE)
- THE FOLLOWING EQUIPMENT SHOWN ON THESE PLANS WILL BE PROVIDED, DELIVERED AND MOUNTED BY BLOOM ENERGY. APPLICABLE TRADES TO MAKE FINAL - CLEAN ENERGY SERVER - PRECAST SUPPORT PAD

SITE KIT NOTES

- SITE KIT (SEE SITE KIT NOTES)

BLOOMENERGY TO PROVIDE AND DELIVER THE SITE KIT. ELECTRICAL AND PLUMBING CONTRACTOR TO INSTALL SITE KITS, CONSISTING OF PAD PLUMBING AND BUS BARS, ON THE PRECAST CONCRETE PAD PER MANUFACTURER PWM DEFLECTORS ARE NOT REQUIRED FOR THIS SITE.

UTILITIES

GAS: SOUTHERN CONNECTICUT GAS (SCG) ELECTRIC: UNITED ILLUMINATING COMPANY (UI)

CONDUIT & PIPE LENGTHS

TYPE	TOTAL DISTANCE FROM TIE-IN TO ES UNIT (LINE
GAS PIPE	±355'
ELECTRICAL CONDUIT	±150'
DATA CONDUIT	±165'
WATER PIPE	+115'

LEGEND OF UTILITY LINES

- 1	L				
	I				
9		DATA	DATA L I NE	—SA——SA——	SANITARY LINE
		-0000	FENCE LINE	—st——st——	STORM LINE
1		FO&T	FIBER OPTICS & PHONE	—tv—tv—tv—	TELEVISION LINE
ш		— G —— G ——	GAS LINE	—UGE——UGE——	UNDERGROUND
ш			JOINT TRENCH	—-w	WATER LINE
ш		—оне——оне——	OVERHEAD ELECTRICAL		

KEYNOTES

- 1)—(n) utility gas meter set assembly (msa) for clean energy server. COORDINATE LOCATION AND INSTALLATION REQUIREMENTS WITH UTILITY COMPANY PRIOR TO INSTALLATION, MAINTAIN MINIMUM 3'-0" CLEARANCE FROM ALL IGNITION SOURCES. CONTRACTOR TO PROVIDE CAST-IN-PLACE PAD PER GAS ASSEMBLY PAD (DETAIL 3/5.0). MSA & INTERCONNECTION PER NATURAL GAS DIAGRAM (DETAIL 1/5.0) AND ONE LINE DIAGRAM (DATA) (SHEET 6.3). ADD IMPACT PROTECTION AS INDICATED BY UTILITY COMPANY.
- (3)—(N) GAS SERVICE TAP BY UTILITY COMPANY. EXACT LOCATION TO BE COORDINATED WITH UTILITY. REQUIREMENTS PER UTILITY COMPANY.
- (4A)—(N) GAS PIPE FROM (N) GAS SERVICE TAP TO TERMINATE AT (N) UTILITY GAS MSA INSTALLED BY UTILITY COMPANY. SIZE & TRENCHING REQUIREMENTS PER UTILITY
- (4B)—(N) GAS PIPE FROM (N) UTILITY GAS MSA TO TERMINATE AT ES UNIT INSTALLED BY CONTRACTOR. DETAIL(S) PER GRADING PLAN (SHEET 3.0). SIZE(S) PER
- INTERCONNECTION DIAGRAM (SHEET 5.0) & ELECTRICAL DATA DETAILS (SHEET 6.3). (5)—(N) ELECTRICAL CONDUIT & WIRES FROM (N) PDS TO (N) DISCONNECT SWITCH WITH
- 3.0). SIZE(S) PER ONE LINE DIAGRAM (SHEET 6.1). (6)—(N) DATA CONDUIT & PULL STRING FROM (N) TS TO TERMINATE INSIDE BUILDING. DETAIL(S) PER GRADING PLAN (SHEET 3.0). SIZE(S) PER ELECTRICAL DATA DETAILS

FINAL TERMINATION AT (E) SWITCHBOARD. DETAIL(S) PER GRADING PLAN (SHEET

(A)—(N) DATA CONDUIT AND PULL STRING FROM (E) UI REVENUE & FIRE PUMP METER
LOCATIONS TO RELOCATED UI METERS ON EXTERIOR BUILDING WALL. DETAIL(S) PER GRADING PLAN (SHEET 3.0). SIZE(S) PER ELECTRICAL DATA DETAILS (SHEET 6.3).

(7)—(n) water pipe from building domestic water system to (n) wdm. connect

- TO NEAREST AVAILABLE LOCATION. DETAIL(S) PER GRADING PLAN (SHEET 3.0). SIZE(S) PER INTERCONNECTION DIAGRAM (SHEET 5.0). (N) DISCONNECT SWITCH & NEMA 3R ENCLOSURE. DISCONNECT SPECIFICATIONS PER ONE LINE DIAGRAM (SHEET 6.1). MOUNT TO BUILDING WALL AND PER MANUFACTURER SPECIFICATIONS. ENSURE LOCATION MEETS ALL REQUIRED N.E.C. CLEARANCES. PROVIDE MODEL NUMBER ON THE OUTSIDE OF THE FRONT PANEL.
- COMPLETE SPECIFICATION PER ELECTRICAL SPECIFICATIONS (SHEET 8.0), SECTION 9 — (N) BLOOMENERGY ES-5700 ENERGY SERVER. PRECAST PAD AND MOUNTING SPECIFICATIONS PER PRECAST CONCRETE PAD. PAD PLACEMENT PER GRADING PLAN (SHEET 3.0). PIPE & CONDUIT STUB-UP LOCATIONS PER PIPE PLAN & DETAILS
- (SHEET 4.0) AND ELECTRICAL CONDUIT DETAILS (SHEET 6.4), RESPECTIVELY. (N) POWER DISTRIBUTION SECTION (PDS). CAST-IN-PLACE PAD AND MOUNTING SPECIFICATIONS PER GRADING PLAN (SHEET 3.0). CONDUIT STUB-UP LOCATIONS PER
- ELECTRICAL CONDUIT DETAILS (SHEET 6.4). 1)—(N) BLOOMENERGY TELEMETRY SECTION (TS) WITH FACTORY WIRED CLEAN ENERGY SERVER EMERGENCY POWER-OFF SWITCH (EPO). CAST-IN-PLACE PAD AND MOUNTING SPECIFICATIONS PER GRADING PLAN (SHEET 3.0). CONDUIT STUB-UP
- LOCATIONS PER ELECTRICAL CONDUIT DETAILS (SHEET 6.4). (12)—(N) WATER DEIONIZATION MODULE (WDM). CAST-IN-PLACE PAD AND MOUNTING SPECIFICATIONS PER GRADING PLAN (SHEET 3.0). PIPE & CONDUIT STUB-UP
- LOCATIONS PER PIPE DETAILS (SHEET 4.0) & ELECTRICAL CONDUIT DETAILS (SHEET
- (N) WATER TAP. IF PRESSURE EXCEEDS 150 PSI, COORDINATE WITH BLOOMENERGY, PURCHASE AND INSTALL PRESSURE REGULATOR PRIOR TO WDM. (N) 10'-0" COPPER GROUNDING RODS 6'-0" APART PER ONE LINE DIAGRAM (SHEET 6.1).
- (N) GUARD POST (TYP). TYPE, SIZE AND LOCATION PER IMPACT PROTECTION PLAN (SHEET 3.2). ENSURE SLEEVE IS FLUSH WITH GRADE AND NO ANGLES OR HOOKS EXIST THAT IMPEDE FORKLIFT ACCESS.
- (N) PROVIDE SECURITY BOXES OF CONDUIT & WIRE AT ALL ELECTRICAL STUB UP LOCATIONS.
- (E) ASPHALT PAVEMENT TO REMAIN. (18)— CORE CONDUIT AND/OR PIPE THROUGH WALL. SCAN WALL PRIOR TO CORING. REFER TO DETAIL 6/3.1.

BRANCH TO ES UNIT.

- (19)—(E) PARKING STALLS TO BE REMOVED (3 TOTAL).
- (E) CONCRETE CURB TO BE REMOVED AND REPLACED AS SHOWN. (N) CONCRETE CURB TO MATCH EXISTING. (E) ASPHALT, (E) CURB & (E) CONCRETE SIDEWALK TO BE REMOVED AS NECESSARY TO ALLOW FOR INSTALLATION OF UTILITIES AND BOLLARDS. REPLACE IN-KIND.
- (22)—(N) ASPHALT SERVICE AREA TO MATCH (E) ASPHALT PER GRADING PLAN (SHEET 3.0). (E) TREES TO BE TRIMMED. 10'-0" CLEARANCE TO BE MAINTAINED FROM ANY BRANCH TO ES UNIT VENT & 6'-0" CLEARANCE TO BE MAINTAINED FROM ANY
- (NOT ON PLAN). SOUND INVESTIGATION DETERMINED THAT NO SOUND WALL IS REQUIRED.
- (NOT ON PLAN). REFER TO "SITE MANAGEMENT PLAN" (PROVIDED BY OTHERS) FOR DIRECTION REGARDING EXCAVATIONS, SOIL HANDLING, DEWATERING (IF
- NECESSARY), ETC. (26)—(N) UTILITY APPROVED METERS & CT CABINET & NEMA 3R ENCLOSURE. SPECIFICATIONS PER ONE LINE DIAGRAM (SHEET 6.1). MOUNT TO BUILDING WALL & PER MANUFACTURER SPECIFICATIONS. ENSURE LOCATION MEETS ALL REQUIRED N.E.C. CLEARANCES, PROVIDE MODEL NUMBER ON THE OUTSIDE OF THE FRONT PANEL. COMPLETE SPECIFICATION PER ELECTRICAL SPECIFICATIONS (SHEET 8.0),
- 22 SECTION 16A.2-6. (27)—IF HOME DEPOT FACILITY UTILIZES THESE AREAS FOR PRODUCT STORAGE,
- COORDINATE WITH TERRI BROPHY TO HAVE AREA CLEARED AS REQUIRED. REFER TO ALL HOME DEPOT GENERAL NOTES ON SHEET 3.1. (28)—(E) REVENUE AND FIRE PUMP METERS TO BE RELOCATED. EXTEND EXISTING REVENUE METER CONDUIT & FIRE PUMP METER CONDUIT TO NEW LOCATION, ENSURE LOCATION MEETS ALL REQUIRED N.E.C. CLEARANCES.

0 0 Bloomenergy.com





SSUE DATE DESCRIPTION 02 03/24/14 UTILITY REVISION 03 05/05/14 UTILITY REVISION 04 | 05/27/14 | REVISED PER IWA 5 08/14/14 REVISED PER UTILITY 0 09/17/14 REVISED PER RFI

PROJECT INFORMATION CHECKED BY:

MVW/TN

(1) ES-5700

SITE PLAN

SHEET NUMBER