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July 1, 2022

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

Re: Petition No. 1458 - Homestead Fuel Cell 1, LLC petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a grid-side 8.4-megawatt fuel cell facility located at 441 Homestead Avenue, Hartford, Connecticut, and associated electrical interconnection to Eversource Energy's existing Northwest Hartford Substation

Dear Ms. Bachman:

Pursuant to Condition 1 of the Connecticut Siting Council's December 20, 2021 Decision, Homestead Fuel Cell 1, LLC hereby submits to the Council its Development and Management Plan ("D&M Plan") which has been prepared in compliance with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies.

An original and fifteen (15) copies of this filing will be hand delivered to the Council.

Should the Council have any questions regarding this filing, please do not hesitate to contact me.

Very truly yours,



Bruce L. McDermott

cc: The Honorable Luke Bronin, Mayor, City of Hartford (via U.S. mail)  
Ewan Sheriff, Fire Marshal, City of Hartford (via U.S. mail)  
Thomas Melone, Esq. and Michael Melone, Esq. (via U.S. mail)

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**HOMESTEAD FUELCELL 1, LLC  
DEVELOPMENT AND MANAGEMENT  
PLAN**

**439 - 441 Homestead Avenue  
Hartford, CT 06112**

**Petition 1458**

**July 1, 2022**

**Prepared**

**by  
Homestead Fuel Cell 1 LLC  
&  
One Development and Construction  
68 Union Street  
Westfield, MA  
01085**

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## **1.0 Introduction**

Homestead Fuel Cell 1, LLC (HFC1) has prepared this Development and Management (D&M) plan in support of the construction of a nominal 8.4-megawatt (MW) fuel cell power generating energy facility pursuant to the requirements of Section 16-50j-60 et seq of the Regulations of Connecticut State Agencies (RCSA).

### **1.1 Project Description**

HFC1 will construct, operate and maintain a 8.4 MW baseload fuel cell project comprised of three SureSource 3000 units to be built at 439 - 455 Homestead Avenue in Hartford, CT. The site is located in a commercial industrial mixed portion of Hartford. The site abuts a car wash and an industrial automotive battery business and is compatible with existing industrial land uses in the area.

The project will occupy a portion of the parcel of land approximately 78,605 square feet in size together with all improvements. The parcel is identified on a map entitled "Property Survey Map, Prepared for Fuel Cell Energy, 439-455 Homestead Avenue, Hartford, Connecticut" dated July 28, 2020, by Angus McDonald Gary Sharpe & Associates, Inc., and more particularly bounded and described as follows: Beginning at a point, which point marks the northeasterly corner of the herein described parcel, the southeasterly corner of land, now or formerly, of Josephine Socci, and the westerly street line of Homestead Avenue and which point is approximately 9 feet northerly of a billboard.

The site currently consists of gravel/stone surface and most recently was used for a construction lay down yard. During preliminary site investigations it was determined that the site is considered contaminated by the Connecticut Department of Energy and Environmental Protection (CT DEEP). A remedial action plan has been created for the project. See Appendix A.

The Project site is located in close proximity to both natural gas and water pipeline infrastructure. The interconnection to the electric grid is located at a manhole located in the road on Homestead Avenue.

## **2.0 Regulatory Approvals and Consultations**

### **2.1 Regulatory Approvals and Requirements**

D&M Plan reflects adherence to the conditions (1(a) to 1(g)) of the CSC's Decision of December 20, 2021.

### **2.2 Consultations**

FuelCell Energy on behalf of HFC1, has been in regular contact with municipal officials in the City of Hartford throughout the project development process, including during the preparation of this D&M Plan.

Project construction will not start until the permits listed below are received. HFC1 will comply with the requirements and conditions in the siting and permitting approvals summarized below. HFC1 will report to the CSC as required and as discussed in Section 4.0 below:



Category	Permit	Permit Trigger	Review Agency	Comments
Site Approval	Petition for Declaratory Ruling	Generation of Electricity for Distribution	Connecticut Siting Council	Approved
FERC Interconnect Agreement	Electric Generator Whole Sale Status	Generation of Electricity for Distribution.	FERC	In Progress
Wastewater	Registration under General Permit Miscellaneous discharge of Sewer Compatible Wastewater	Discharge of Industrial Wastewater	CTDEEP	Target December 2022
Building	Building Permit	Construction	Hartford Building Department	TBD
Air	Permit to Construct and Operate	PTE>15TPY for any air pollutant	CTDEEP	Not Required (PTE<15TPY)
Stormwater	General Permit for Stormwater Construction Activities Registration	Site Disturbance $\geq$ 1 Acre	CTDEEP	Not Required
Stormwater	General Permit for Stormwater Associated with Industrial Activities	Permit not required based on applicability	CTDEEP	Not Required
Site Approval	Planning and Zoning	Information only	Hartford Planning and Zoning	Not Required

### **3.0 Construction Information**

#### **3.1 Project Facilities and Land Requirements**

The three fuel cell units will be set on a foundation(s) which will consist of driven H-piles with concrete pile caps and grade beams. A minimum 12" thick reinforced concrete matt will be poured over the grade beams to form the foundation(s). Graded stone will be placed around the structure to allow any runoff water to percolate into the ground.

The facility will have an 8-to-9-foot fence surrounding the intended security zone around the units with a landscape frontage approximately 250 foot by 30 foot outside the front side of the perimeter fence. A rendering concept is included in the Appendix D.<sup>1</sup>

Detailed design associated with items such as piping, wiring, instrumentation, underground utilities, etc., will not be completed until a notice-to-proceed for construction has been issued. Appendix D contains drawings with design information.

<sup>1</sup> Paragraph 1(a) of the Council's December 20, 2021 Decision requires HFC1 to include a final site plan that includes lighting. However, since the filing of the Company's petition with the Council, the Company has further designed and engineered the project. Based on those efforts, the Company will not be installing any lighting on site. Accordingly, no lighting plan is included as part of this D&M Plan.

### **3.2 Construction Management and Contact Information**

Contact information for the contractor personnel assigned to the project will be provided to the Council upon selection of a contractor to complete the construction. HFC1 anticipates selecting the contractor by September 30, 2022.

### **3.3 Construction Work Hours**

Construction work hours shall be Monday through Saturday from 6 AM to 5 PM. During start-up and commissioning, there may be minor activities on nights and weekends until start-up is complete.

### **3.4 Site Preparation**

Ground surfaces within the construction areas will be cleared of all vegetation prior to construction. Site development and grading will be a balance of cut and fill areas such that excess material will not be transported from site. Stone will be used on site to dress the site. Once the sitework is completed, a greenspace will be added in the front yard area which will include grass and landscaping.

### **3.5 Blasting Procedures**

No blasting will be performed as part of the project.

### **3.6 Erosion and Sediment Controls**

A construction stormwater pollution prevention plan ("SWPPP") will be developed prior to the start of construction to mitigate the short-term stormwater impacts from the project during construction. The SWPPP includes descriptive specifications concerning land grading, topsoiling, temporary vegetative cover, permanent vegetative cover, vegetative cover selection and mulching, and erosion checks. Details have been provided for all erosion control measures with corresponding labels on the SWPPP control site plan. The construction SWPPP controls are in accordance with the DEEP 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

The construction areas will be surrounded by a geotextile sediment filter fence that will be fortified with staked hay bales up gradient of all toe of slopes. A stone construction entrance will be provided at the site entrances. Erosion control blankets will be proposed on critical slopes to protect the newly created slopes until permanent vegetation can be established. During construction, inlet protection will be provided at the proposed drainage inlet structures to trap sediment. The soil and erosion controls are to be modified if required with the changing grades on site to ensure the protection of the surrounding areas throughout the construction process.

The construction contractor shall establish temporary vegetative cover on all unprotected areas that produce sediment, areas where final grading has been completed, and areas where the estimated period of bare soil exposure is less than 12 months. Vegetative cover will be established in areas that will not be permanently seeded by September 1st. Permanent vegetative cover will be established as various sections of the project are completed in order to stabilize these areas, reduce impacts from sediment and runoff and to enhance the aesthetic nature of the site.

## **4.0 Notices and Reports**

### **4.1 Staging and Material Laydown Areas**

HFC1 will provide the CSC with written notice of the location and size of all areas to be accessed or used for site testing or staging areas.

### **4.2 Notice of Beginning**

HFC1 will provide the CSC, a minimum of two weeks advance written notice of the beginning of:

- a. Clearing and access work, and
- b. Facility construction.

#### **4.3 Notices of Changes**

HFC1 will provide the CSC with advance written notice whenever a significant change of the approved D&M Plan is necessary. If advance written notice is impractical, verbal notice shall be provided to the Council immediately and shall be followed by written notice not later than 48 hours after the verbal notice. Significant changes, as defined in the RCSA, may include but not be limited to changes in a structure or equipment type or location, use of additional mitigation measures or elimination of mitigation measures, etc.

#### **4.4 Notice of Completion**

Pursuant to paragraph 8 of the December 20, 2021 Decision, HFC1 shall provide the CSC with written notice of completion of construction and site rehabilitation within 45 days after completion of construction.

#### **4.5 Notice to Municipalities**

Any request for extension of the time period referred to in Condition 3 of the December 20, 2021 Decision shall be filed with the CSC not later than 60 days prior to the expiration date of said time period and shall be served on all parties and interveners and the City of Hartford. Any such request for extension shall state the reason(s) for which an extension is being sought.

#### **4.6 Notice to Landowners**

A copy, or notice of the filing, of the D&M Plan, or a copy, or notice of the filing of any changes to the D&M Plan, or any section thereof, shall be provided to the service list and the property owner of record, if applicable, at the same time the plan, or any section thereof, or at the same time any changes to the D&M Plan, or any section thereof, is submitted to the CSC.

#### **4.7 Monthly Reports**

HFC1 will provide the CSC with a quarterly construction progress report, or a construction progress report of a different time interval determined by the CSC, indicating changes and deviations from the approved D&M Plan.

#### **4.8 Final Report**

Consistent with the requirements of RCSA section 16-50j-62(c)(1-5), HFC1 will provide the CSC with a final report for the facility not later than 180 days after completion of all site construction and site rehabilitation. This final report shall identify:

- 1) All agreements with abutters or other property owners regarding special maintenance precautions;
- 2) Significant changes of the D&M Plan that were required because of the property rights of underlying and adjoining owners or for other reasons;
- 3) The location of construction materials which have been left in place including, but not limited to, culverts, erosion control structures along watercourses and steep slopes.
- 4) The location of areas where reseeding have been done; and
- 5) The actual construction cost of the facility, including, but not limited to, the following costs:
  - a. Construction of the facility and associated equipment;
  - b. Rehabilitation; and
  - c. Property acquisition for the site or access to the site.

**Appendix A**  
**Remedial Action Plan**

REMEDIAL ACTION PLAN  
439-455 HOMESTEAD AVENUE  
HARTFORD, CT 06112

Prepared for:  
Fuel Cell Energy, LLC



57 Chestnut Street, Unit 10  
Norwalk, CT 06854

May 2022

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## 1.0 INTRODUCTION

Big East Environmental, LLC (Big East) has prepared this Remedial Action Plan (RAP) at the request of One Development & Construction, LLC to address the contaminated soils which may be impacted during the excavation activities for future site development. This RAP describes proposed remedial actions should contaminated soil and/ or groundwater be encountered during planned site development activities. The proposed activities are designed to be consistent with the Connecticut Department of Energy and Environmental Protection (CTDEEP) Remediation Standard Regulations (RSRs).

This RAP is subject to the Limitations described in section 9.0.

### 1.1 SITE DESCRIPTION

The Site lies on the west side of Homestead Avenue, bound to the north by 1535 Albany Avenue (occupied by a commercial car wash), to the south by 425 Homestead Avenue (commercial property – Interstate Battery Center), and to the west by National Railroad Passenger Company rail lines. To the east, across Homestead Avenue, lies commercial retail properties such as Autozone Auto Parts and Route 44 Auto Sales and Repairs.

The Site is vacant and contains no structures or buildings. The Site does contain a cell phone tower with associated utility shed on the northwest corner of the property. The remainder of the Site contains stored contractor materials and an office trailer. Ground cover consists mainly of bare soil, deteriorated asphalt (northern portion of the site), and grass/ brush cover on the Site perimeter. No significant vegetation, large trees, or water features exist on site.

The general area around the Site slopes downward to the southwest. Groundwater flow mimics the surface topography, with groundwater flow directed to the south toward North Branch Park River, approximately 1,000 feet to the southwest.

### 1.2 SITE BACKGROUND

Big East completed a Phase I Environmental Site Assessment (ESA) of the Subject Site in April, 2019. The Phase I ESA found that a dry-cleaner once occupied the Site potentially placing the Site under the definition of a Hazardous Waste Establishment under Connecticut Property Transfer Law. Big East subsequently performed a Targeted Phase II ESA in April, 2019 targeting Areas of Concern identified in the Phase I ESA. These Areas of Concern (AOCs) included the following;

- AOC 1: Site Groundwater
- AOC 2: Site Soils Beneath the Area of Planned Development
- AOC 3: 550-Gallon Above Ground Diesel Storage Tank

The findings of the Targeted Phase II ESA found that impacts to soil and groundwater existed on site. Some of these impacts were in the area of planned development for the site future use. A Targeted Phase III ESA was performed in December, 2020 to delineate to the extent of soil impacts.

### 1.3 APPLICABLE REGULATIONS

At present, the Subject Site is not being transferred nor is currently enrolled in any CT Department of Energy and Environmental Protection programs, therefore the CT DEEPs Remediation Standard Regulations (CTDEEP RSRs) do not currently apply. However, the CT DEEPs RSRs have been and will be used for compliance goals in this RAP, specifically

- Residential Direct Exposure Criteria (ResDEC) which applies to soils within 15 feet of the ground surface and aims to protect human health from risks associated from direct contact with and/or ingestion of contaminated soil.
- GB Pollutant Mobility Criteria (GBPMC) which evaluates the potential for contaminants to leach from soil and impact the underlying groundwater.

## 2.0 CONCEPTUAL SITE MODEL

The Surficial Materials Map of Connecticut indicates that the site is underlain by fines. Soil classification maps classify the soil as Urban Land. Boring logs describe sandy soils with fill underlain by fines and clay, confirming the surficial mapping of the area. Groundwater at the Site is classified “GB” by the CT DEEP, which is groundwater not suitable for consumption without prior treatment.

The Conceptual Site Model (CSM) presented below provided the initial framework for the Phase II Environmental Site Assessment by identifying potential contaminant release areas and contaminants of concern and has been revised to reflect the findings of the Targeted Phase III Environmental Site Assessment. Expanding on the findings of the Phase II Investigation and in alignment with the proposed development area, Big East intended to delineate the extent of targeted contaminants identified in the Phase II ESA.

Information delivered to Big East by the client detailed plans for the site that included the Subject Site being leased by a prospective lessee. The lessee intends to lease the property from the current Subject Site owner for a to be determined amount of time. In that the time the lessee plans to develop a portion of the subject site (see Figure 3), approximately 40,080 ±square feet in size. As of the date of this investigation, the exact locations of the development were not surveyed or marked in the field. All development locations are approximate and thus field activities were executed on assumed approximate locations. This investigation was developed to determine the extent of impacted soil beneath the proposed development area within the Subject Site property. It has been determined through a Phase I ESA that the site had one or more dry-cleaning facility’s on site in the past. The exact location of the dry-cleaner(s) was not available, however a site map included in a previous Phase I was identified and located the dry-cleaning activities as being in the middle of the Site on the western portion. Emergency Incident reports found at the CT DEEP file room detailed leaking storage drums that contained oil & solvents within the building. However, the locations of these drums within the building were not detailed. The building has since been demolished. Additional remediation clean-up reports were also available for review and detailed two areas of leaking storage tank remediation. The first was at the northwest corner of the former building and the second was along the south portion of the former building. The contamination at the south portion extended south to the southern property border at which clean-up was inhibited by buried electrical conduits. According to the report, contamination was left in place in the area of the buried conduit. Through a Phase II ESA, it has been determined that contaminant releases have occurred to soils and groundwater at the Subject Site and in the area of the proposed development.

The CSM lists each actual or potential release area as an Area of Concern (AOC). For each AOC, the CSM describes:

- Contaminants of Concern (COCs), i.e., what was or might have been released.
- Release Mechanisms, i.e., surface spill, subsurface discharge, leaky tank, etc.
- Transport Mechanisms, i.e., infiltration through unsaturated zone to groundwater, free phase or dissolved transport with groundwater, preferential flow along utility trenches, etc.
- Potential environmental or human receptors, which consider exposure pathways, such as vapor intrusion, drinking water, direct contact, seepage into streams or wetlands, etc.
- Investigation procedures to target the proper contaminated or potentially contaminated media.



- The presence or absence of contaminant releases at each AOC and whether or not such releases, if present, have migrated in groundwater.
- Phase III objectives, as needed to assess extent of contamination or to fill in data gaps and to assess the need for remediation.

Areas of Concern (AOCs)

AOC 1 – Groundwater

Releases from the former dry-cleaning facilities and the historic leaking underground storage tanks could have possibly impacted groundwater beneath the targeted development area. Groundwater is assumed to flow south/ southwest. From previous report site map reviews, it was determined that dry-cleaning took place approximately in the center, towards the western portion of the Site. CT DEEP Emergency Incident Reports detailed 5 leaking storage drums containing oil and solvents that were removed from the site in August of 2000. Emergency Incident report date March 1990 detailed #2 fuel oil as being discharged at the Hudson Laundry facility located on the Subject Site. UST Closure report from October 2002 detailed the removal and clean-up of five (5) underground storage tanks – four (4) along the south side of the building and one (1) along the eastern portion of the building. It is possible that one, several, or all of these documented environmental conditions could have impacted the sites groundwater.

Contaminants of Concern:	ETPH, Metals, VOCs, SVOCs, PAHs, and PCBs
Release Mechanism:	Surface releases such as spills, leaks, and overflows from dry-cleaning operations. Releases from storage drums of dry-cleaning waste. Spills at loading dock/ receiving areas. Releases from the documented leaking underground storage tanks.
Fate and Transport:	Leaking drums that were stored inside the building could have leaked onto concrete foundation. Cracks in foundation would have acted as a preferential pathway to soils below. Downward percolation through soils and into water table. Dense compounds would likely enter the groundwater and begin to sink through porous soils. Light compounds would likely stay atop the water table and flow south in the presumed direction of groundwater flow.
Potential Receptors:	Direct exposure during site development. Cross contamination during site development. Down-gradient receptors such as Northbrook Branch Park River, potable wells, schools, and daycare facilities.
Phase III Investigation:	No samples collected. Assume impacts to groundwater are present as found in the Phase II. Any contact with groundwater shall follow the steps and details as laid out in a Remedial Action Plan.
Presence of Release:	Yes, PAH's, TCE and PCE detected in groundwater.

AOC 2 – Soil beneath planned development area.

Releases from the former dry-cleaning facilities and the historic leaking underground storage tanks could have possibly impacted soil beneath the targeted development area. From previous report site map reviews, it was determined that dry-cleaning took place approximately in the center, towards the western portion of the Site. CT DEEP Emergency Incident Reports detailed 5 leaking storage drums containing oil and solvents that were removed from the site in August of 2000. Emergency Incident report date March 1990 detailed #2 fuel oil as being discharged at the Hudson Laundry facility located on the Subject Site. UST Closure report from October 2002 detailed the removal and clean-up of five (5) underground storage tanks – four (4) along the south side of the building and one (1) along the eastern portion of the building. Phase I ESA documents indicate that fill material was imported to the Subject Site after building demolition. It is possible that one, several, or all of

these documented environmental conditions could have impacted the soil beneath the planned development area.

Contaminants of Concern: ETPH, Metals, VOCs, SVOCs, PAHs, and PCBs  
 Release Mechanism: Surface releases such as spills, leaks, and overflows from dry-cleaning operations. Releases from storage drums of dry-cleaning waste. Spills at loading dock/ receiving areas. Releases from the documented leaking underground storage tanks. Imported fill.  
 Fate and Transport: Leaking drums that were stored inside the building could have leaked onto concrete foundation. Cracks in foundation would have acted as a preferential pathway to soils below.  
 Potential Receptors: Direct exposure to soil.  
 Phase III Investigation: Soil sampling.  
 Presence of Release: Yes.  
 Phase III Findings: PCE and other VOCs detected at levels below ResDEC and GB PMC. PAH's detected at levels below ResDEC and GB PMC. Lead and Arsenic detected at levels above ResDEC and GB PMC in boring B12 at depths of 4-8' bgs.

AOC 3 – Above Ground Storage Tank – 550-gallon Diesel

Contaminants of Concern: ETPH, VOCs, SVOCs, and PAH's  
 Release Mechanism: Surface releases such as spills, leaks, overflows, and/or line failures.  
 Fate and Transport: Surface spills, leaks, or overflows would impact the soil directly beneath the release area. Downward percolation could potentially impact soils and groundwater.  
 Potential Receptors: Direct exposure to soil. Impacted groundwater could transport contaminants to sensitive environmental receptors.  
 Phase III Investigation: Soil sampling.  
 Presence of Release: Yes, PCE and PAH's.  
 Phase III Findings: PCE and PAH's detected at levels below ResDEC and GB PMC.

**3.0 REMEDIATION AREAS**

For purposes of this RAP, the targeted area of investigation is the area of planned development described to Big East by the client. This area is located within the southern portion of the entire Subject Site referred to as the "lease area." The planned development is a concrete pad placed on the Site that will house fuel cell equipment. Part of this development requires underground utilities to be brought in to the area of planned development from the street (Homestead Avenue). According to client details, the utility trenches will be two-feet wide by four-feet deep (2'x4'). Total estimated soil to be excavated is 800-yards, which is not planned for off-site transportation or disposal (plans call for on-site reuse as backfill). The Phase II and III ESAs have identified three areas where soil exceeds the CT DEEPs RSR's for Residential Direct Exposure Criteria (ResDEC). Figure 1 of this report details the locations of these impacted areas.

The Phase II ESA identified, through groundwater monitoring, that groundwater beneath the Site was impacted above applicable standards. Depth to groundwater in the area of planned development ranged from 2.36 bgs (below ground surface) to 8.83 bgs over two rounds of sampling in March, 2019. It is anticipated that the site development activities of this project will not impact groundwater.

## EXCAVATION EXCLUSION ZONES

The excavation exclusion zones are the areas of proposed excavation where soils impacted by contaminants (VOCs and Metals) are located. This RAP and associated conditions apply to all work being performed within these zones.

### RELEASE AREA 1

This area is located in the southwest portion of the Site and is within the Planned Development Area. Through the Phase II & III ESAs it was determined that soil below 8.0' bgs are impacted with PCE (tetrachloroethylene) at levels above the CT DEEPs ResDEC.

### RELEASE AREA 2

This area is located in the center of the lease area and is partially within the Planned Development Area. Gas and water utility lines appear to possibly pass through this area as well. The soil in this area is impacted with lead and arsenic above the CT DEEPs ResDEC. These impacts are at depths below 4.0 bgs.

### RELEASE AREA 3

This area is located in the eastern portion of the Site, just north of (outside of) the lease area and does not appear to be within the Planned Development Area. This area is impacted with PCE above CT DEEP ResDEC at depths of 1-4' bgs. Although this area is not planned to be disturbed by site development, we have included it in this RAP in the event plans are changed.

*Please see figure 1 for location of Release Areas*

## **4.0 REMEDIAL STRATEGIES**

Based on the results of the Site Characterization, comparison with the project drawing C-002 provided by One Development & Construction (figure 2) detailing the plans of the development, and verbal communication with the site developer, Big East has concluded that contaminated soils (soil above ResDEC) will not be impacted during the course of development within the Planned Development Area.

If soil excavation below 8.0' bgs is required in Release Area 1; below 4.0' bgs in Release Area 2; disturbance of soil at any depth in Release Area 3; or groundwater is to be impacted the following steps shall be performed;

### 4.1 Impacted Soil & Groundwater Management

If soil impacted with contaminants above CT DEEPs RSRs requires excavation and will then be placed back into the excavation area, it shall be stockpiled on a layer of 20-mil polyethylene sheeting and covered with a sheet of 20-mil polyethylene sheeting in a manner to prevent water and/ or wind infiltration. The stockpile shall be bordered with haybales and/ or silt fencing. The soil shall be placed back into the same area from which it was excavated and buried a minimum of 4.0 below ground surface. If the excavation area is to remain open, it shall be completely enclosed with orange safety fencing at the end of the work day to prevent access by unauthorized individuals.

All efforts to minimize work site personnel exposure and direct contact with contaminated soil shall be taken at all times. If an individual needs to come in direct contact with contaminated soil, that individual shall wear personal protective equipment such as overalls, gloves, and safety glasses.

If off-site disposal of contaminated soil is required it shall first be properly characterized for waste disposal. It shall meet the requirements of the designated disposal facility for parameters such as; TCLP metals, flash point, reactivity, corrosivity, SVOCs, PCBs, VOCs, and ETPH. Soil designated for off-site disposal can be loaded directly into an approved truck or designated container. If stockpiling is required, the stockpiling requirements outlines above shall apply. Off-site disposal shall require the appropriate documentation such waste profile, waste manifest, and bills of lading.

#### 4.2 Decontamination Process

In an effort to minimize cross-contamination via on-site tools and/ or machinery, it is recommended that any item that has contacted contaminated soil and/ or groundwater is decontaminated so as not to introduce pollutants into previously non-impacted areas of the Subject Site. Decontamination efforts shall include the following;

1. Designate a decon area on the subject site. This area shall be large enough to accommodate the equipment plus personnel to perform the decon process.
2. The ground shall be covered with a layer of 20-mil poly sheeting and secured in place by weights.
3. Efforts to minimize run-off shall be taken however, haybales and/ or silt fencing placed around the perimeter of the decon area to capture any run-off.
4. Tools and equipment shall be cleaned with scrub brushes and a mix of de-ionized water and Alconox® or similar product.
5. The cleaning shall be performed over an approved container (ie. 55-gallon drum).
6. Once the decon process is complete the container shall be sealed, characterized for waste disposal and shipped off-site for proper disposal at an approved disposal facility.

#### 4.3 Health and Safety Plans

All contractors who will enter the exclusion zones or may handle or come into contact with contaminated soil and/ or groundwater shall prepare and follow their own site-specific health and safety plan for protection of their workers, sub-contractors, and public.

#### 4.4 Site Preparation

Prior to any excavation, digging, sub-surface installations, etc. Call Before You Dig shall be notified for a utility mark out.

##### 4.4.1 Pre-Construction Meeting

Owners Representative will be invited to attend the pre-construction meeting at the Site with all parties involved in the impacted soil excavation process prior to the start of construction activities.

##### 4.4.2 Mobilization

Mobilization will be conducted as necessary for each phase of work at the Site. Mobilization includes field personnel orientation, equipment mobilization, marking/staking excavation locations and utility mark-outs. Each field team member will attend an orientation meeting to become familiar with the general operation of the Site, health and safety requirements, and field procedures.

#### 4.4.3 Utility Marker Layouts, Easement Layouts

The presence of utilities and easements on the Site will be fully investigated prior to the performance of invasive work such as excavation under this plan by using, at a minimum, the Call-Before-You-Dig System. Underground utilities may pose an electrocution, explosion, or other hazard during excavation or drilling activities. All invasive activities will be performed in compliance with applicable laws and regulations to assure safety. Utility companies and other responsible authorities will be contacted to locate and mark the locations, and a copy of the Markout Ticket will be retained by the contractor prior to the start of excavation or other invasive subsurface operations. Overhead utilities may also be present within the anticipated work zones. Electrical hazards associated with excavation in the vicinity of overhead utilities will be prevented by maintaining a safe distance between overhead power lines and drill rig masts. Proper safety and protective measures pertaining to utilities and easements, and compliance with all laws and regulations will be employed during invasive and other work contemplated under this RAP. The integrity and safety of on-Site and off-Site structures will be maintained during all invasive, excavation or other remedial activity performed under the RAP.

#### 4.3.4 Dewatering

If required, submersible pumps will be used to extract groundwater from excavation areas. Extracted groundwater will be conveyed to a storage tank or treatment system. Depending on the selected discharge option, a CT DEEP and/ or City of Hartford discharge permit will be obtained to discharge groundwater. If groundwater is shipped off-site for off-site disposal copies of complete waste manifests shall be provided to the Owners Representative upon request.

#### 4.3.5 Demobilization

Demobilization will include: As necessary, restoration of temporary access areas and areas that may have been disturbed to accommodate support areas (e.g., staging areas, decontamination areas, storage areas, temporary water management areas, and access area); Removal of sediment from erosion control measures and truck wash and disposal of materials in accordance with applicable laws and regulations; Equipment decontamination, and; General refuse disposal. Equipment will be decontaminated and demobilized at the completion of all excavation activities which occur in the exclusion zones. Excavation equipment and large equipment (e.g., soil excavators) will be washed at the decontamination area as necessary. In addition, all exclusion zone excavation derived waste will be appropriately disposed.

## **5.0 COMMUNITY AIR MONITORING PLAN**

Real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the site or work area will be performed by the Owners Representative. Continuous monitoring will be performed for all ground intrusive activities and during the handling of contaminated or potentially contaminated media. Ground intrusive activities include, but are not limited to, soil excavation and handling, test pit excavation or trenching, and the installment of utilities, conduit, and/ or utility equipment. Exceedances of action levels observed during performance of the Community Air Monitoring Plan (CAMP) will be reported to the Owner's Representative and included in the Daily Report.

### 5.1 VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis during invasive work. Upwind concentrations will be measured at the start of each workday and periodically thereafter



to establish background conditions. The monitoring work will be performed using photo ionization detectors. The equipment will be calibrated at least daily. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shutdown. All readings must be recorded and be available for review.

### 5.2 Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m<sup>3</sup>) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m<sup>3</sup> above the upwind level and provided that no visible dust is migrating from the work area. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m<sup>3</sup> above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m<sup>3</sup> of the upwind level and in preventing visible dust migration. All readings will be recorded and be available for review.

## **6.0 PERSONAL PROTECTION**

To eliminate/mitigate the potential of ingestion during active excavation activities site workers will have the appropriate training (OSHA-40hr) and will review the awarded contractor's site-specific health and safety plan. The site will be fenced to limit public access. Vehicles entering and exiting the excavation exclusion zone will be inspected and cleaned as necessary to avoid the transport of impacted soil beyond the site boundaries. To eliminate/mitigate the potential of dermal contact during active exclusion zone excavation activities site workers will wear Level D personal protective equipment (PPE). To eliminate/mitigate the potential of inhalation particulate air monitoring will be performed during excavation activities in the exclusion zone and air monitoring of volatile organic compounds will be performed.

1. All personnel working on site must wear hardhats, neon traffic safety vests, and safety shoes.

Personnel working in the Excavation Exclusion Zone must also wear eye/face, and hand PPE appropriate to the task.

2. (e.g. Nitrile, etc) gloves and tyvek/saranex suit should be worn if contact with contaminated water or soil is likely.
3. Hearing protection must be worn if noise levels prevent normal conversation at a distance of three feet.
4. No smoking, eating, or drinking is allowed in the exclusion or impacted media zones. No Smoking anywhere on site.
5. No personnel shall conduct a confined space entry. In addition, no personnel shall approach any excavation area where there is danger of a wall collapse.
6. Respiratory protection (air-purifying respirator with organic vapor cartridges) is required if PID readings in breathing zone are at 50-500 ppm

## **7.0 WORKER TRAINING**

Workers participating in excavation of or handling of contaminated material on this project are required to be trained under 29 CFR 1910.120, including 40-hour hazardous waste operator (HAZWOPER) training and annual 8-hour refresher training. This pertains to workers performing specific tasks within the excavation exclusion areas, including removing contaminated material, handling contaminated material, and installing utility or other subsurface equipment within the contaminated areas. A designated Site Safety Officer shall be responsible for maintaining workers training records.

## **8.0 FINAL REPORTING**

Owners Representative, Big East Environmental, will prepare a final close out report for activities conducted within the exclusion areas for Site Owners review. Copies of all records shall be made available upon request for purposes of final close-out reporting.

## **9.0 LIMITATIONS**

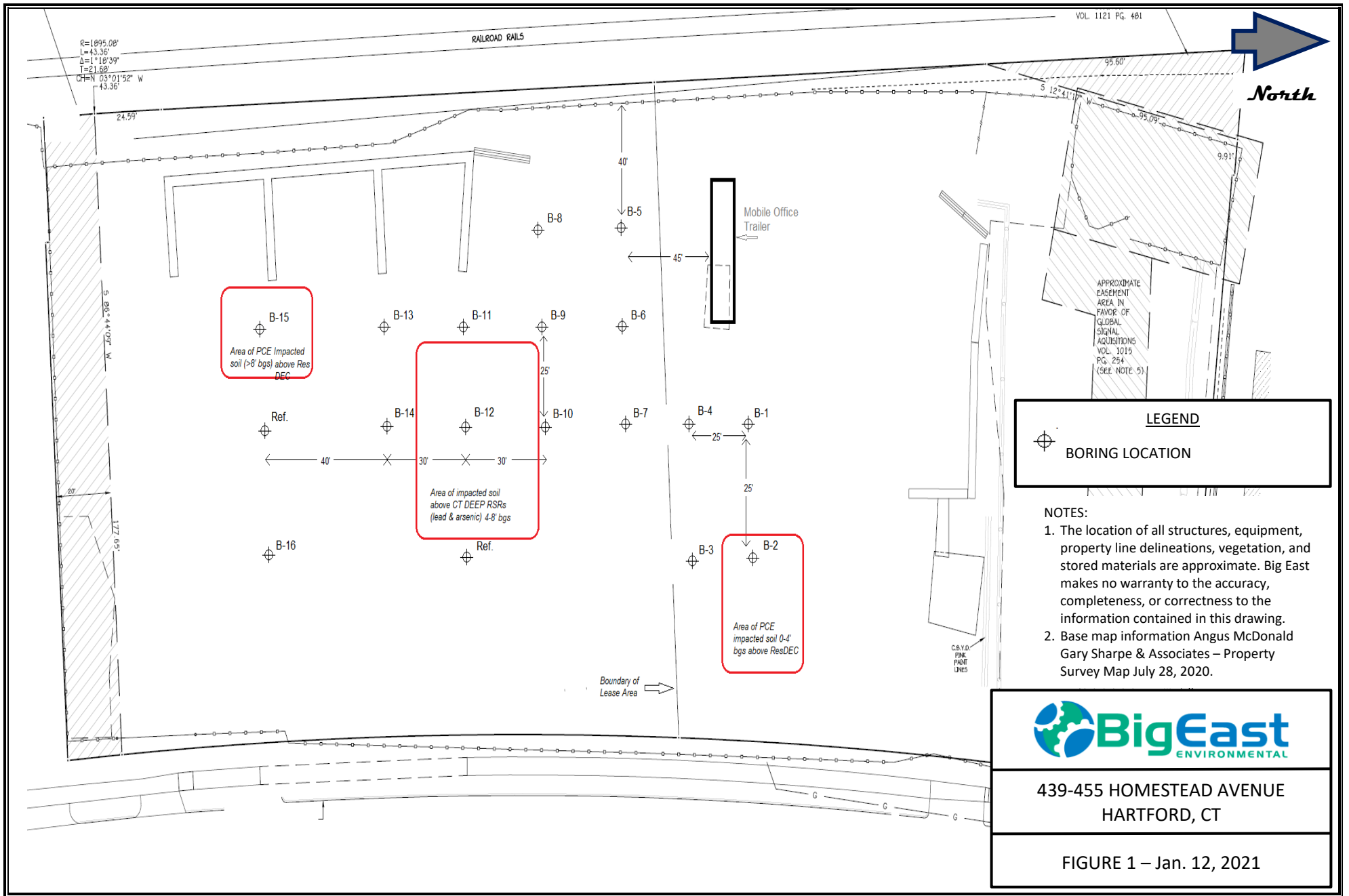
- 9.1 This Report has been prepared on behalf of Fuel Cell Energy, LLC (Client), solely for use at the above referenced Subject Site.
- 9.2 The purpose of this Report was to describe the remediation activities to be undertaken at the Subject Site with respect to potential impact/ contact with contaminated soils during the development of the Subject Site. No specific attempt was made during the generation of this RAP to check on the compliance of present or past owners or operators of the Site with federal, state, or local laws and regulations, environmental or otherwise. For compliance with said laws and regulations please refer to previous Phase I, II, and III Environmental Site Assessment Reports.
- 9.3 This RAP was developed in accordance with generally accepted principles and practices of other consultants undertaking similar activities in the same geographical area. The findings, recommendations, and conclusions must be considered not as scientific certainties, but rather as our professional opinion concerning the significance of the limited data gathered. No other warranty, express or implied is made. Additionally, Big East makes no warranty that any response action or recommended action will achieve all of its objectives.
- 9.4 In preparing this Report, Big East has relied on certain information provided by state and local officials and other parties referenced herein, and on information contained in the files of state

and/or local agencies available to Big East at the time of the study. Big East relied upon client supplied information, both written and verbal and previously generated Phase I (Big East April 2019), Phase II (Big East April 2019), and Targeted Phase III (Big East January 2021) Environmental Site Assessments to arrive at conclusions and recommendations.

- 9.5 The observations described in this Report were made under the conditions stated therein. The conclusions presented in the Report were based solely upon the services described herein and the previously generated Phase I (Big East April 2019), Phase II (Big East April 2019), and Targeted Phase III (Big East January 2021) Environmental Site Assessments. The work described in this Report was carried out in accordance with the Terms and Conditions referenced in our contract agreement with the Client.
- 9.6 The conclusions, recommendations, and findings stated in this Report are based in part upon the data obtained from a limited number of widely spaced observations and short term monitoring points. The nature and extent of variations between these explorations may not become evident until further investigation or excavation. If varying conditions appear or become evident, it may be necessary to re-evaluate the recommendations and conclusions of this Report.
- 9.7 Groundwater level readings have been previously made and stated in the Report. These data have been reviewed and interpretations have been made in the preparation of this Report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall and other factors different from those prevailing at time measurements were made.
- 9.8 The findings contained in this Report are based in part upon various types of chemical data and are contingent upon their validity and laboratory QA/QC controls. These data have been reviewed and interpretations made in the Report. It should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, the passage of time, and other factors. Should additional chemical data become available in the future, these data may change the understanding of site conditions; and it would then be appropriate to revisit the findings, conclusions, and recommendations in this report.
- 9.9 Chemical analyses have been performed for specific parameters during the course of this study, as detailed in the Report. Big East has not conducted an independent evaluation of the reliability of these data, although Big East has confirmed that the laboratory has followed the RCPs. It must be noted that additional constituents not searched for during the current study may be present in soil and groundwater at the Site.
- 9.10. In the event that the Client or others obtain information on environmental or hazardous waste at the Site not stated in this report, such information shall be brought to the attention of Big East for evaluation and possible re-evaluation of findings, conclusions, and recommendations.
- 9.11 This RAP does not include activities related to the abatement of hazardous building materials such as asbestos containing materials (ACM), lead based paint, mercury containing equipment, fluorescent light bulbs, drums or other containers, or any other equipment that may be present on site.



**FIGURE 1**  
Release Area Locations



**FIGURE 2**  
Proposed Site Development Drawing



**Appendix B**  
**CSC December 20,2021 Decision**





STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

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**VIA ELECTRONIC MAIL & CERTIFIED MAIL**

December 20, 2021

Bruce L. McDermott, Esq.  
Murtha Cullina LLP  
265 Church Street  
New Haven, CT 06510  
[bmcdermott@murthalaw.com](mailto:bmcdermott@murthalaw.com)

RE: **PETITION NO. 1458** – Homestead Fuel Cell 1, LLC petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a grid-side 8.4-megawatt fuel cell facility located at 441 Homestead Avenue, Hartford, Connecticut, and associated electrical interconnection to Eversource Energy's existing Northwest Hartford Substation.

Dear Attorney McDermott:

At a public meeting held on December 16, 2021, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal meets air and water quality standards of the Department of Energy and Environmental Protection and would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k would not require a Certificate of Environmental Compatibility and Public Need, with the following conditions:

1. The Petitioner shall prepare a Development and Management Plan (D&M) for this facility in compliance with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:
  - a) A final site plan including, but not limited to, detailed site design, fuel cell layout, site access, electrical, water and natural gas connections, project interconnection detail, fencing, lighting, and site drainage;
  - b) Construction site plans that include, but are not limited to, site preparation, grading, construction laydown areas, and erosion and sedimentation controls;
  - c) Site maintenance/groundskeeping plan;
  - d) Contact information for the construction contractor;
  - e) A copy of a spill prevention control and countermeasures plan prior to commencement of construction;
  - f) Contact information for the spill response contractor; and
  - g) Documentation that all facility perimeter fencing, including the decorative fence proposed for the east side of the site, comply with the requirements of the National Electric Code (NEC).
2. Annually provide an updated copy of the Emergency Response Plan to local emergency responders prior to facility operation, and provide emergency response training;
3. The use of natural gas as a fuel system cleaning medium during fuel cell construction, installation or modification shall be prohibited;

4. Submit the following information to the Council 15 days prior to any fuel pipe cleaning operations related to fuel cell construction, installation, or modification:
  - a. Identification of the cleaning media to be used;
  - b. Identification of any known hazards through use of the selected cleaning media;
  - c. Description of how known hazards will be mitigated, including identification of any applicable state or federal regulations concerning hazard mitigation measures for such media;
  - d. Identification and description of accepted industry practices or relevant regulations concerning the proper use of such media;
  - e. Provide detailed specifications (narratives/drawings) indicating the location and procedures to be used during the pipe cleaning process, including any necessary worker safety exclusion zones;
  - f. Identification of the contractor or personnel performing the work, including a description of past project experience and the level of training and qualifications necessary for performance of the work;
  - g. Contact information for a special inspector hired by the project developer who is a Connecticut Registered Engineer with specific knowledge and experience regarding electric generating facilities or a National Board of Boiler and Pressure Vessel Inspector and written approval of such special inspector by the local fire marshal and building inspector; and
  - h. Certification of notice regarding pipe cleaning operations to all state agencies listed in General Statutes § 16-50j(h) and to the Department of Consumer Protection, Department of Labor, Department of Public Safety, Department of Public Works, and the Department of Emergency Management and Homeland Security;
5. Compliance with the following codes and standards during fuel cell construction, installation or modification, as applicable:
  - a. NFPA 54
  - b. NFPA 853; and
  - c. ASME B31;
6. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed within three years from the date of the mailing of the Council's decision, this decision shall be void, and the facility owner/operator shall dismantle the facility and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The facility owner/operator shall provide written notice to the Executive Director of any schedule changes as soon as is practicable;
7. Any request for extension of the time period to fully construct the facility shall be filed with the Council not later than 60 days prior to the expiration date of this decision and shall be served on all parties and intervenors, if applicable, and the City of Hartford;
8. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
9. The facility owner/operator shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v;



10. The facility owner/operator shall file an annual report on a forecast of loads and resources pursuant to Conn. Gen. Stat. §16-50r;
11. This Declaratory Ruling may be transferred, provided the facility owner/operator/transferor is current with payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v and the transferee provides written confirmation that the transferee agrees to comply with the terms, limitations and conditions contained in the Declaratory Ruling, including timely payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v; and
12. If the facility owner/operator is a wholly owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the facility within 30 days of the sale and/or transfer.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition, dated July 13, 2021, and additional information received July 26, 2021, September 10, 2021, September 14, 2021, and October 1, 2021, and in compliance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

Enclosed for your information is a copy of the staff report on this project.

Sincerely,



Melanie A. Bachman  
Executive Director

MAB/IN/lm

Enclosure: Staff Report dated December 16, 2021

- c: Service List dated August 27, 2021  
The Honorable Luke Bronin, Mayor, City of Hartford ([luke.bronin@hartford.gov](mailto:luke.bronin@hartford.gov) )  
Ewan Sheriff, Fire Marshal, City of Hartford ([shere001@hartford.gov](mailto:shere001@hartford.gov) )





# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

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**Petition No. 1458**  
**Homestead Fuel Cell 1, LLC**  
**441 Homestead Avenue**  
**Hartford, Connecticut**

**Staff Report**  
**December 16, 2021**

### Introduction

On July 14, 2021, the Connecticut Siting Council (Council) received a petition from Homestead Fuel Cell 1, LLC (HFC1), a wholly owned subsidiary of Fuel Cell Energy Inc. (FCE), for a declaratory ruling, pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k, for the installation of a grid-side 8.4-megawatt fuel cell facility and associated equipment at 441 Homestead Avenue, Hartford, Connecticut.

HFC1 met with City of Hartford (City) officials on April 1, 2021 to discuss the project. On July 12, 2021, HFC1 mailed notification of the project to the City, required state officials and agencies, and abutting property owners. HFC1 did not receive any comments from the abutting property owners.

C.G.S. §22a-20a requires applicants seeking a permit from the Department of Energy and Environmental Protection (DEEP) or the Council for a new or expanded facility defined as an “affecting facility” that is proposed to be located in an environmental justice community to file an Environmental Justice Public Participation Plan (EJPPP). Hartford is an environmental justice community. However, the proposed facility is not an “affecting facility” under C.G.S. §22a-20a because it is a Class I renewable resource under 10 MW. Thus, C.G.S. §22a-20a does not apply to the facility, and an EJPPP is not required.

On July 16, 2021, the Council sent correspondence to the City stating that the Council has received the petition and invited the municipality to contact the Council with any questions or comments by August 13, 2021. No comments from the City were received.

Also, on July 16, 2021, pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-40, the Council notified all state agencies listed therein, requesting comments regarding the proposed project be submitted to the Council by August 13, 2021. The Connecticut Airport Authority (CAA) submitted comments on July 21, 2021<sup>1</sup>. HFC1 provided a response to the CAA comments on July 26, 2021<sup>2</sup>. No other state agency comments were received.

While the Council is obligated to consult with and solicit comments from state agencies by statute, the Council is not required to abide by the comments from state agencies.<sup>3</sup>

<sup>1</sup> [https://portal.ct.gov/-/media/CSC/3\\_Petitions-medialibrary/Petitions\\_MediaLibrary/MediaPetitionNos1451-1460/PE1458/PROCEDURALCORRES/pe1458\\_CAA\\_commentsacknowledged\\_20210721.pdf](https://portal.ct.gov/-/media/CSC/3_Petitions-medialibrary/Petitions_MediaLibrary/MediaPetitionNos1451-1460/PE1458/PROCEDURALCORRES/pe1458_CAA_commentsacknowledged_20210721.pdf)

<sup>2</sup> [https://portal.ct.gov/-/media/CSC/3\\_Petitions-medialibrary/Petitions\\_MediaLibrary/MediaPetitionNos1451-1460/PE1458/PETITIONERSUBMISSIONS/PE145820210726-Letter-to-the-Connecticut-Siting-Council-re-Notification-of-Homestead-Fuel-Cell-1-LLC.pdf](https://portal.ct.gov/-/media/CSC/3_Petitions-medialibrary/Petitions_MediaLibrary/MediaPetitionNos1451-1460/PE1458/PETITIONERSUBMISSIONS/PE145820210726-Letter-to-the-Connecticut-Siting-Council-re-Notification-of-Homestead-Fuel-Cell-1-LLC.pdf)

<sup>3</sup> *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007)

On August 9, 2021, Allco Renewable Energy Limited (Allco) requested Connecticut Environmental Protection Act (CEPA) intervenor status under CGS §22a-19. On August 27, 2021, the Council granted Allco CEPA intervenor status.

The Council issued interrogatories to HFC1 on August 27, 2021. HFC1 provided responses to Council interrogatories on September 10, 2021.

On September 10, 2021, pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act which requires an administrative agency to take action on a petition within 60 days of receipt, the Council voted to set the date by which to render a decision on the petition as January 10, 2022. This date is the statutorily mandated 180-day decision deadline for this petition.

On September 17, 2021, Allco submitted interrogatories to HFC1. On October 1, 2021, HFC1 provided responses to Allco's interrogatories.

### **Public Benefit**

The project would be a "grid-side distributed resources" facility, as defined CGS § 16-1(a)(37). CGS § 16a-35k establishes the State's energy policy, including the goal to "develop and utilize renewable energy resources...to the maximum practicable extent." The proposed facility is a distributed generation resource and will contribute to fulfilling the State's Renewable Portfolio Standard as a low emission Class I renewable energy source. On or about June 13, 2018, the project was selected as part of a DEEP Request for Proposals (RFP) under Public Act 17-144 – An Act Promoting the Use of Fuel Cells for Electric Distribution Benefits and Reliability. Operation of the fuel cell facility would reduce electric load and stress on the system.

Power produced by the facility would be sold to Eversource Energy (80.38%) and the United Illuminating Company (UI) (19.62%) in accordance with a power purchase agreement (PPA). The PPA is for 7.4 MW. Under its terms, any excess power delivered to the electric distribution companies would be at the prevailing wholesale power rate. The PPA also has a 20-year term and there are no provisions for extension or renewal.

The PPA does not include the utilization of waste thermal energy; however, the waste heat from the facility will be available on demand for any future potential off-takers.

HFC1 intends to participate in the ISO-New England, Inc. Forward Capacity Market.

### **Project Site**

The site<sup>4</sup> is a 1.84 acre rectangular-shaped parcel located at the intersection of Homestead Avenue and Albany Avenue. The host property is owned by Talar Properties, LLC, is zoned commercial and industrial mix (CX-1) and is surrounded by mostly commercial properties.

The proposed site has previously been used for various industrial purposes, including automobile garages and dry-cleaning services, and hosted a building that was removed. A 140-foot tall telecommunications tower is located in the northwestern portion of the parcel within a fenced equipment compound.

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<sup>4</sup> RCSA §16-50j-2a(29), "Site" means a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and easements on which a facility and associated equipment is located, shall be located or is proposed to be located.



An existing car wash and Albany Avenue (Route 44) are located to the north of the host parcel, Eversource's 115-kV Northwest Hartford Substation and Connecticut Department of Transportation (CDOT) railroad tracks are located to the west, a commercial property is located to the south and Homestead Avenue and another commercial property are located to the east. The nearest residential property line is located at 29 Baltimore Street about 282 feet to the southeast of the site across Homestead Avenue.

The CDOT railroad tracks are currently not operational.

### **Proposed Project**

The proposed facility would consist of three natural gas fueled SureSource 3000 fuel cell units installed on a concrete foundation approximately one-foot above grade.<sup>5</sup> The fuel cell units will be manufactured in Connecticut and installed and operated by FCE on behalf of HFC1. The fuel cell units would be delivered to the site by truck.

Each unit would be about 69-feet 11-inches long and about 43-feet 2inches wide and have a footprint of about 3,017 square feet. Each of the fuel cell units would have a vertical exhaust stack that would reach a height of about 33-feet above ground level (agl) including the concrete pad. The exhaust stacks would be the tallest features of the proposed facility. Each unit would generate about 2.8 MW of power and would have an operational service life of 20 years.

Each fuel cell unit would consist of three main sections:

- a) The mechanical portion of the fuel cell unit which comprises of the desulfurization system, the main process skid and the water treatment system that provides ventilation, cleans and heats fuel and water and includes the control system for the unit;
- b) Two 1.4 MW fuel cell power modules which convert the fuel supply into direct current (DC) power; and
- c) The electrical portion of the fuel cell unit which comprises two power conditioning units, two transformers, and one switchgear for grid connection that converts DC power from the fuel cell into AC power.

The fuel cell units utilize non-combustion carbonate fuel cell technology that consumes natural gas as fuel to generate electrical power. The fuel cell units would be replaced every 5-7 years.

The facility would be grid-interconnected to Eversource's Northwest Hartford Substation at 23-kV. The proposed connection path would be above ground on existing and proposed utility poles and extend from the proposed facility along Homestead Avenue and Albany Avenue and terminated at the 23-kV distribution system at the rear of the facility and leading to the substation. A 2018 feasibility study indicated that the Northwest Hartford Substation could accommodate the generation of the fuel cell facility with minor upgrades, including, but not limited to, installation of a transfer trip, primary cable, switchgear, metering cabinet and a larger manhole on Homestead Avenue.

An updated Feasibility Study and associated System Impact Study are currently pending. This project would also require an ISO-NE transmission interconnection study.

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<sup>5</sup> There is space on the proposed site for a fourth 2.8 MW fuel cell unit. HFC1 submitted a bid into the Shared Clean Energy Facility (SCEF) RFP for a separately metered 2.8 MW fuel cell unit that is proposed to be located in this space on the site and would request an amendment to the petition for the fourth unit if it is selected in the SCEF RFP.

The existing Connecticut Natural Gas (CNG) pipeline on Homestead Avenue is not adequate to serve the fuel cell facility. A new and upgraded natural gas pipeline is necessary for the project to become operational. HFC1 is consulting with CNG on the design and installation of a new upgraded natural gas pipeline for the project.

The fuel cell facility is microgrid capable, however the proposed facility will not operate as part of a microgrid at this time.

FCE would construct the facility and maintain the fuel cell units. HFC1 would own the facility.

Construction of the project is expected to begin in the fourth quarter of 2021 and would take approximately 12 months. Construction hours would be from 7:00 am to 5:00 p.m. Monday through Friday. If Saturday and Sunday work is required, the construction hours would be between 9:00 a.m. and 5:00 p.m. No work is planned at night.

Once operational, the facility would be unstaffed, requiring only occasional vehicle trips to the facility for routine site maintenance activities.

At the end of the 20-year facility life span, all fuel cell components would be removed and the utility connections properly isolated. The on-site concrete pads and associated structures would remain in place.

## **Environmental Effects and Mitigation**

### *Air Emissions*

Air emissions produced during the operation of the facility would not trigger any regulatory thresholds and would not require a DEEP Air Permit. The proposed facility would emit 36,000 metric tons per year of Carbon dioxide (CO<sub>2</sub>) without waste heat recovery. The utilization of waste heat recovery would not affect the projected emissions from the facility.

The proposed facility would emit 644 tons per year (tpy) Carbon dioxide equivalent (CO<sub>2</sub>e) of methane (CH<sub>4</sub>), 0.2 tpy of nitrous oxide (N<sub>2</sub>O), no sulfur hexafluoride (SF<sub>6</sub>), hydrofluorocarbons (HFCs) or perfluorocarbons (PFCs), which are greenhouse gases defined in RCSA Section 22a-174-1(49). The Project would also emit negligible amounts of sulfur oxides (0.004 tpy), volatile organic compounds (0.7 tpy) and particulate matter (0.0007 tpy).

### *Water Resources*

The facility would require about 39,000 gallons per day (gpd) of raw water for its operation and will discharge about 19,500 gpd of wastewater to the Metropolitan District. The amount of wastewater discharged would be greatly reduced if the waste heat were to be utilized. A new water line would also be installed.

The DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (General Permit) requires implementation of a Stormwater Pollution Control Plan to prevent the movement of sediments off construction sites into nearby bodies of water and to address the impacts of stormwater discharges from a project after construction is completed. The General Permit authorizes the discharge of stormwater at a site with a total disturbance of one acre or more of land area. The project entails site disturbance in excess of one acre. A DEEP issued General Permit for Stormwater Management is required prior to commencement of construction. The petitioner has not yet submitted an



application for a General Permit. HFC1 anticipates that an application will be submitted by its contractor one month prior to the commencement of construction.

The site is not within a Federal Emergency Management Agency-designated flood zone. There are no wetlands or watercourses near the site. The site is not within a DEEP-designated Aquifer Protection Area. The nearest wetland is about 300 feet southeast of the facility. The proposed project would be constructed consistent with the *2002 Connecticut Guidelines for Soil Erosion and Sedimentation Control*.

#### *Soil*

The project site is not located on any prime farmland soils. The project site is previously disturbed and has undergone remedial activities such as soil relocation and groundwater remediation. A Phase I Environmental Site Assessment (ESA) and Phase II ESA conducted in February and March 2019, respectively, determined contaminant releases had occurred on the site. A Phase III ESA and Remedial Action Plan were completed in January 2021. The Remedial Action Plan includes ongoing remediation of soil and groundwater at the site. The proposed fuel cell facility is designed as an engineered cap in accordance with DEEP Remediation Standard Regulations.

#### *Wildlife*

The project area is not located within a DEEP Natural Diversity Database (NDDDB) buffered area. Correspondence from DEEP dated November 2, 2020, determined that the project would not have an impact on State listed endangered species or species of special concern.

#### *Historic and Recreational Resources*

By letter dated December 24, 2020, SHPO determined that the proposed project would not have an adverse effect on sites listed on or eligible for listing on the National Register of Historic Places.

#### *Visibility*

The site is within an urban area developed with a mix of commercial and industrial uses. It hosts an existing 140-foot telecommunications tower and is adjacent to CDOT railroad tracks beyond which Eversource's Northwest Hartford Substation is located.

Views of the proposed facility from the west and northwest would be obstructed by the existing tree line, views from the south will be obstructed by a commercial building. Landscaping and decorative fencing that would be installed on the eastern side of the facility would further soften the view of the facility from the east.

### **Public Safety**

#### *Natural Gas Safety*

Natural gas would not be stored at the site. It will be delivered through a connection to an upgraded underground pipeline from the CNG gas main on Homestead Avenue.

Odorized natural gas would be supplied to the fuel cell facility at a nominal pressure of 20 psig<sup>6</sup>. The fuel cell units would reduce the gas pressure to 15 psig and direct flow through the desulfurizer vessels for deodorization.

The natural gas supply contains sulfur which is a fuel cell system catalyst contaminant. Each fuel cell has a desulfurization system that would remove sulfur. The desulfurization process would not result in sulfur being released into the air. The sulfur and other byproducts would be stored/contained within the sealed desulfurizer vessel.

Maintenance of the desulfurizer vessel and replacement of the desulfurizer media is anticipated to be done annually. The vessels would be removed from the fuel cell units and transported by a licensed hazardous waste transporter to an approved disposal facility. Hazardous materials would not accumulate within the fuel cell stacks.

In the event of a fire, system malfunction or emergency the plant control system would initiate an emergency shut down sequence which isolates the fuel cell units from the external fuel source and disconnects the fuel cell inverters from the grid.

A pressure relief safety valve is also incorporated into the project design. It is designed to automatically restrict and stop flow when natural gas flow exceeds certain limits, thus limiting the risk of escaping natural gas due to damage or a pipe failure.

Before commissioning the proposed facility, HFC1 would use compressed air as pipe cleaning media, in accordance with Public Act 11-01, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

Approximately 3,000 gallons of liquid nitrogen will be stored on site. The liquid nitrogen is used in gaseous form to purge the fuel cell modules of all humidified natural gas and prevent ambient air intrusion during an emergency shut down event or when the facility is not in operation. HFC1 will notify DEEP and the Hartford Fire Department of all hazardous materials stored on the site.

### *Noise*

The primary sources of equipment noise for the proposed project are the air blower and the piping that delivers air and fuel to the cell modules.

Sound modeling techniques were used to estimate the potential noise impacts to industrial, commercial and residential receptors in the project area.

RCSA §22a-69-2.2 notes that, "Where multiple uses exist within a given Noise Zone, the least restrictive land use category for Emitter and Receptor shall apply..." Accordingly, given the zoning classification of the subject property and its past and current use, the proposed facility would be considered a Class C (Industrial) emitter. Please see Table 1 below.

Emitter Class	RECEPTOR ZONE		
	<i>Industrial</i>	<i>Commercial</i>	<i>Residential (day/night)</i>
<i>Industrial</i>	70	66	61/51
<i>Commercial</i>	62	62	55/45

<sup>6</sup> psig (pound-force per square inch gauge) is a unit of pressure relative to the surrounding atmosphere.



<b>Residential</b>	62	55	55/45
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Table 1. DEEP Noise Control Regulations.

Results indicate that projected sound impacts are not expected to exceed 46 dBA at residential property boundaries, 54 dBA at commercial property boundaries and 59 dBA at industrial property boundaries. Thus, the operation of the proposed fuel cell facility would meet DEEP Noise Control Regulations.

The facility layout incorporates engineering design considerations that act as sound emission mitigation measures. For example, the largest sound-generating associated equipment is located in the central portion of the facility layout and is shielded by other associated equipment. Furthermore, HFC1 incorporated vibration isolation of rotating equipment and a partial sound enclosure of the main process air blower.

Any noise associated with the construction of this project would be temporary in nature and exempt per DEEP Noise Control Regulations.

### *Security*

The facility would be remotely monitored by FCE's Global Monitoring and Control Center personnel on a 24/7 basis to detect abnormalities in operation. The fuel cell facility would be designed in accordance with American National Standards Institute and Canadian Standards Association (ANSI/CSA) America FC 1-2004 for stationary fuel cell power systems and includes extensive safety control systems, including both automatic and manual shutdown mechanisms that comply with pertinent engineering standards. If operational abnormalities occur, the fuel cell can be remotely shut down and personnel dispatched to service the facility.

The project area would be enclosed within an 8-foot tall chain link fence with a curved anti-climb feature on the north, south and west sides of the facility. The east side of the facility would be enclosed by a decorative fence, the design of which is to be determined by the City.

The fence would be about 32 feet from Homestead Avenue to the east, about 12 feet to the railroad tracks to the west and about 150 feet to Eversource's Northwest Hartford Substation across the tracks further to the west. The boundary of the abutting commercial parcel to the north is about 175 feet from the northern fence line of the facility. The adjoining parcel to the south is about 43 feet from the southern fence line.

The site will have a locked gate and limited access for authorized personnel only. If approved, staff recommends a condition that HFC1 submit documentation that all facility perimeter fencing, including the decorative fence proposed for the east side of the site, comply with the requirements of the National Electric Code (NEC).<sup>7</sup>

Site lighting will be turned on at night time for security purposes and lighting fixtures will be selected and installed in accordance with the International Dark Sky Association (IDA) Guidelines.

### *Fire Protection*

In accordance with the National Fire Protection Association, Standard for the Installation of Stationary Fuel Power Systems (NFPA 853) FCE has provided a Fire Prevention and Emergency Plan for this fuel cell

<sup>7</sup> Section 110.31 of the National Electrical Code (NEC), 2020 Edition notes that, for over 1,000 Volts, "...a wall, screen, or fence shall be used...A fence shall not be less than 7 feet in height or a combination of 6 feet or more of fence fabric and a 1 foot or more...utilizing barbed wire or equivalent."

installation. FCE's Fire Prevention and Emergency Plan provides guidance on fire prevention procedures, inspections, housekeeping practices, flammable material storage, control of ignition sources, procedures for fire protection equipment impairment, fire emergency plans and other information.

The proposed transformers would be filled with 100% biodegradable fire-retardant oil and will not have secondary containment.

The closest facility associated equipment to Route 44 is the nitrogen storage tank at about 290 feet away. The closest facility associated equipment to Homestead Avenue is the gas supply meter which is set back about 40 feet and is surrounded by bollards. Bollards would also be installed around the switch gear.

In the event that the CDOT railroad becomes operational, the fuel cell system will have manual and automatic gas shut off features.

The detection of a potential combustible gas mixture or a fire will result in an emergency facility shutdown and an alarm notification to service personnel. The natural gas supply valves would close and nitrogen (an inert gas) from the on-site storage tank would purge the fuel cell stack and fuel processing system.

Also, Emergency Shut Down push buttons will be located throughout the site and can be used by site personnel or emergency responders.

FCE will coordinate with local first responders prior to the commencement of site operation to review emergency response procedures specific to the proposed fuel cell facility. FCE will also schedule a walk around tour and on-site training for the local fire department prior to construction completion.

#### *Aviation Safety*

Each fuel cell has its own exhaust stack reaching a maximum height of approximately 33 feet above ground level. The nearest airports to the proposed facility are the Hartford-Brainard Airport and the Rentschler Heliport at approximately 3.8 miles and 4.5 miles from the facility site, respectively.

In response to the CAA comments, and in accordance with Federal Aviation Administration (FAA) Form 7460, HFC1 will provide notice to the FAA of the height of the crane to be employed during construction.

The fuel cell exhaust stream does not produce any vapor plumes from condensing water due to the high temperature of the stream and upward vertical velocity in the design of the exhaust stack.

#### **Conclusion**

The project is a distributed energy resource with a capacity of not more than sixty-five megawatts, meets air and water quality standards of the DEEP, and would not have a substantial adverse environmental effect. As a low-emission Class I renewable energy source, it would reduce the emission of air pollutants that contribute to smog and acid rain, and to a lesser extent, global climate change, and furthers the State's energy policy by developing and utilizing renewable energy resources and distributed energy resources.

The project was selected in a competitive RFP process and would not cause unreasonable pollution, impairment or destruction of the public trust in the air, water or other natural resources of the state.

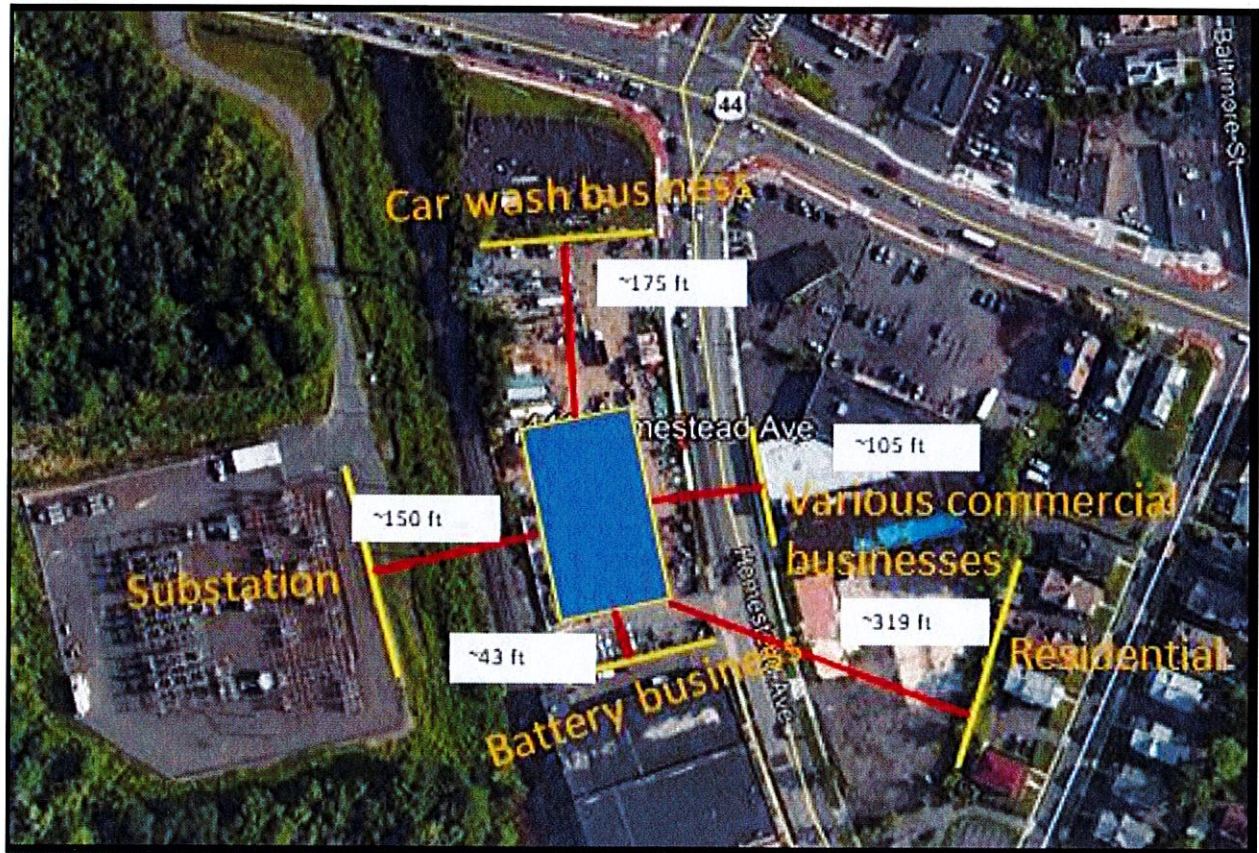
#### **Recommendations**



If approved, staff recommends the following conditions:

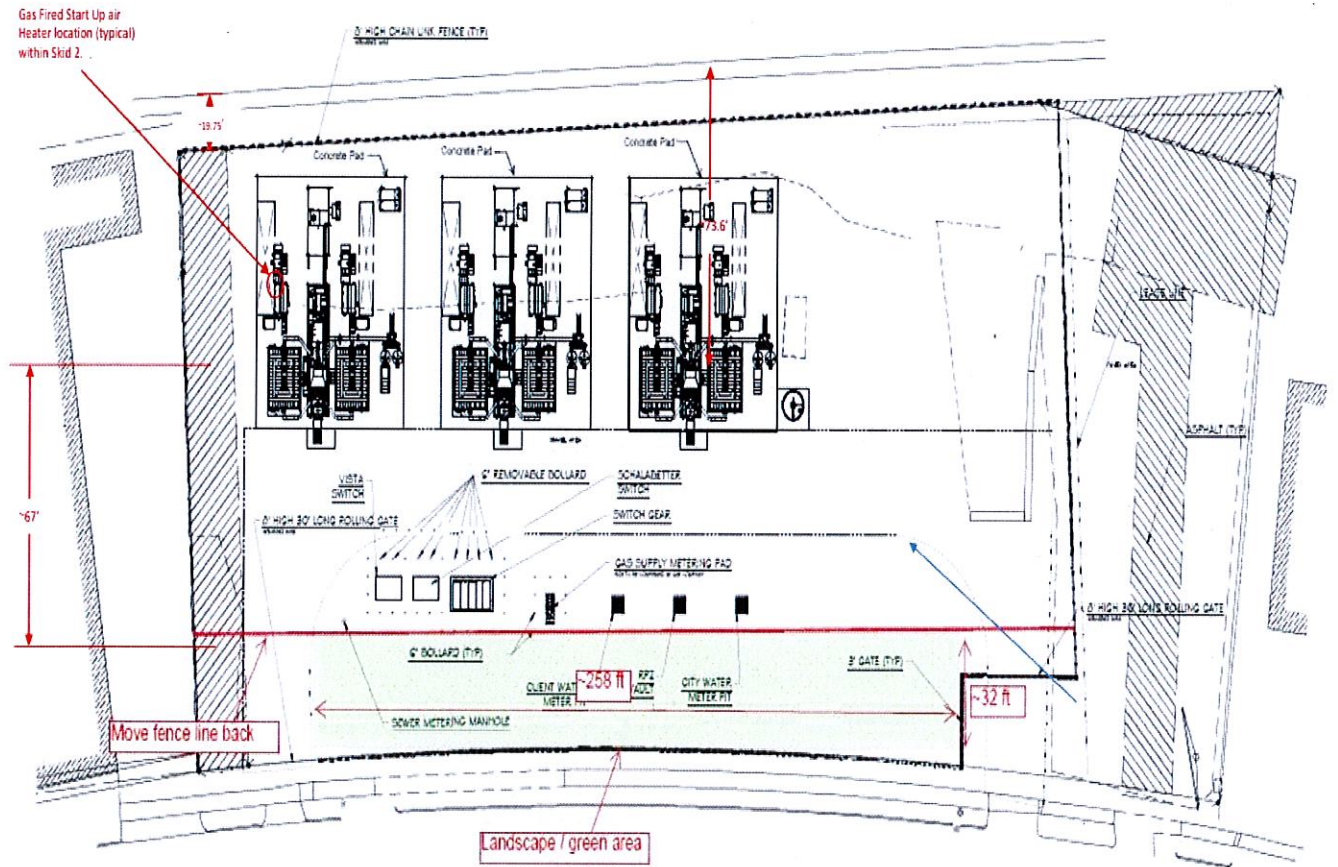
1. The Petitioner shall prepare a Development and Management Plan (D&M) for this facility in compliance with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:
  - a) A final site plan including, but not limited to, detailed site design, fuel cell layout, site access, electrical, water and natural gas connections, project interconnection detail, fencing, lighting, and site drainage;
  - b) Construction site plans that include, but are not limited to, site preparation, grading, construction laydown areas, and erosion and sedimentation controls;
  - c) Site maintenance/groundskeeping plan;
  - d) Contact information for the construction contractor;
  - e) A copy of a spill prevention control and countermeasures plan prior to commencement of construction;
  - f) Contact information for the spill response contractor; and
  - g) documentation that all facility perimeter fencing, including the decorative fence proposed for the east side of the site, comply with the requirements of the National Electric Code (NEC).
2. Annually provide an updated copy of the Emergency Response Plan to local emergency responders prior to facility operation and provide emergency response training.

**Figure 1. Aerial view of the project area and surrounding development**

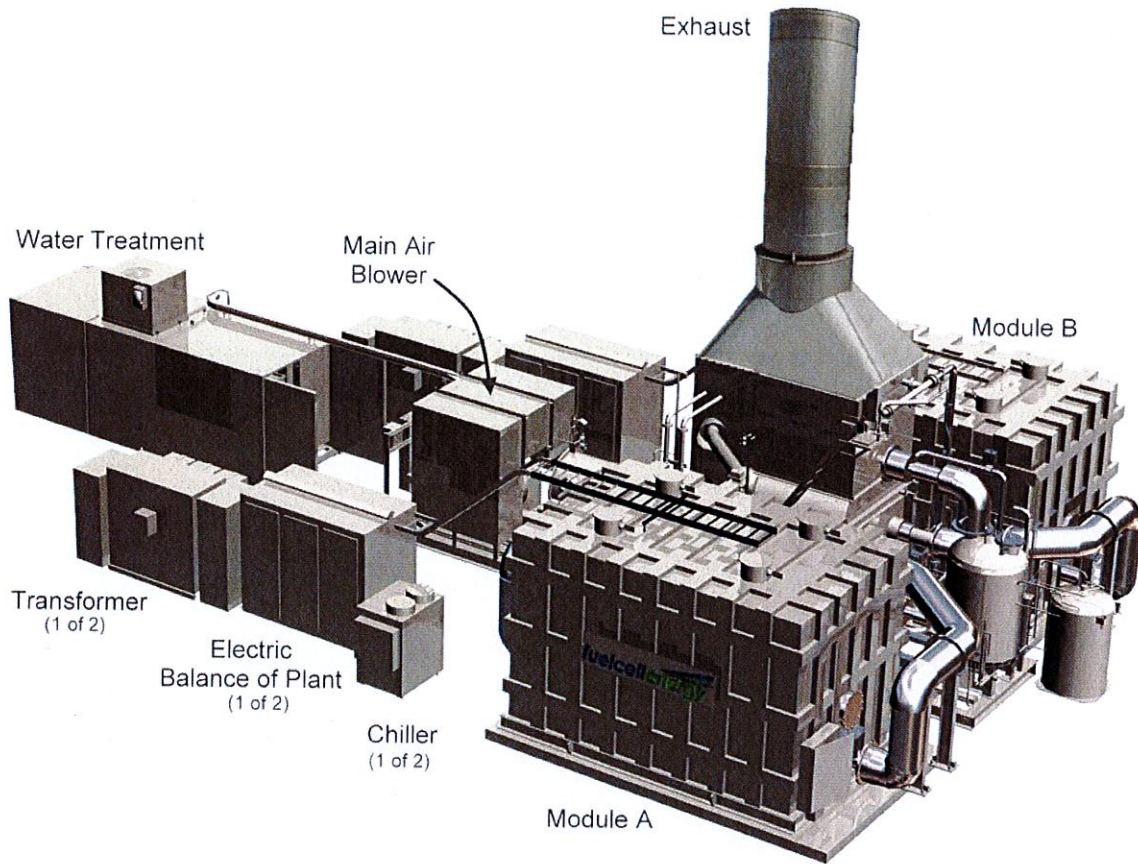




**Figure 2. Site Plan**



**Figure 3. Typical equipment component layout of the SureSource 3000 Fuel cell power plant**





**Figure 4. Existing Site conditions**

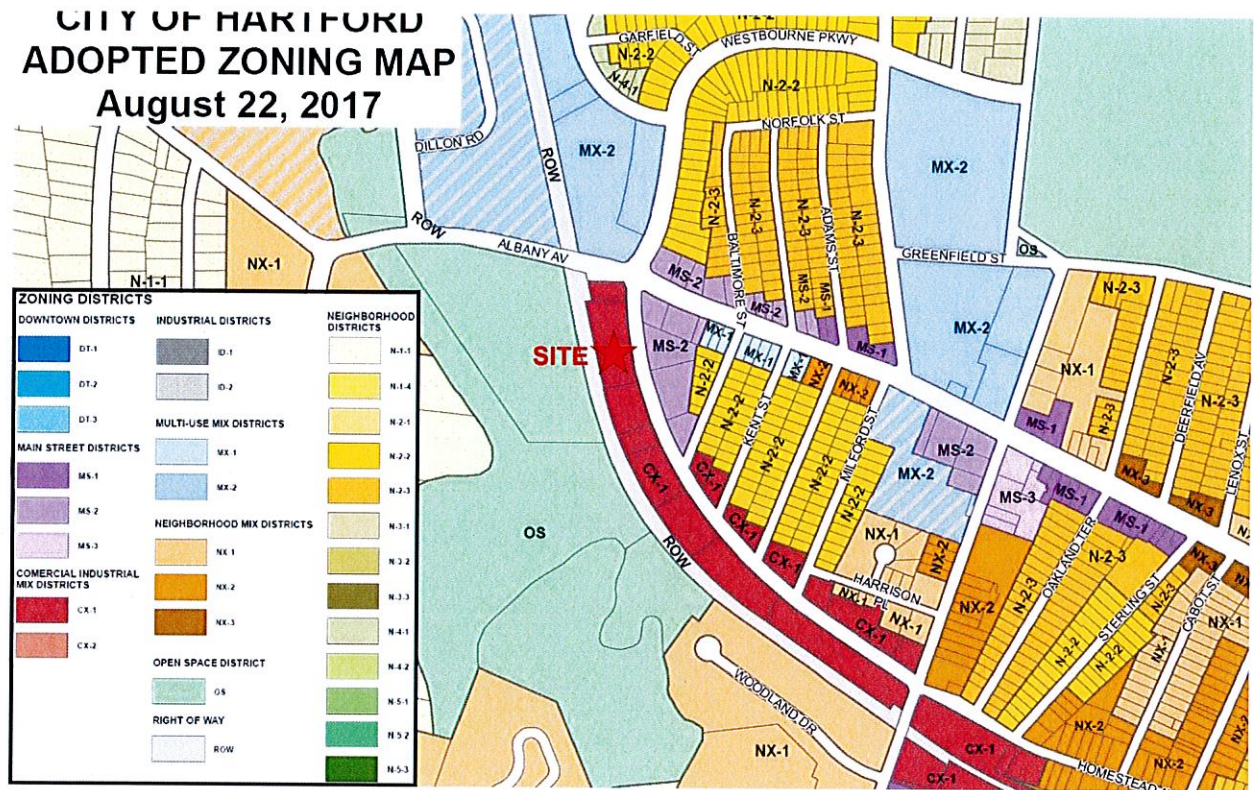


**Figure 5. Simulation of proposed facility**





**Figure 6. Municipal Zoning Map showing location and Zoning**



**Figure 7. View from Homestead Avenue**





**Appendix C  
Contractor Contact Information**

To be provided.

## **Appendix D Drawings**

1. Drawing C-001 – Survey Sketch sheets 1 through 4
2. Drawing C-002 – Site Plot
3. Drawing C-004 – Utilities Layout

APPENDIX D

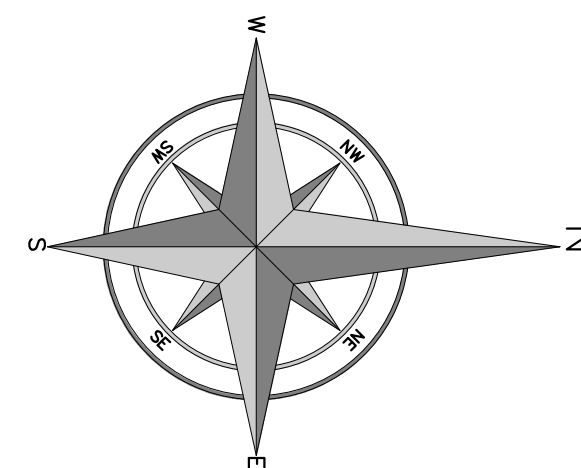
PROJECT DESIGNER  
**one**  
 DEVELOPMENT & CONSTRUCTION, LLC  
 65 UNION STREET WESTFIELD, MA 01085  
 F: (413) 485-4060  
 90 MAIN STREET P.O. BOX 820  
 CENTERBROOK, CT 06426  
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 www.one-d-c.com

PROJECT DEVELOPER

CONSULTING ENGINEER

PROFESSIONAL SEAL

DRAWING ORIENTATION



NOTES/COMMENTS

NO.	DESCRIPTION	DATE

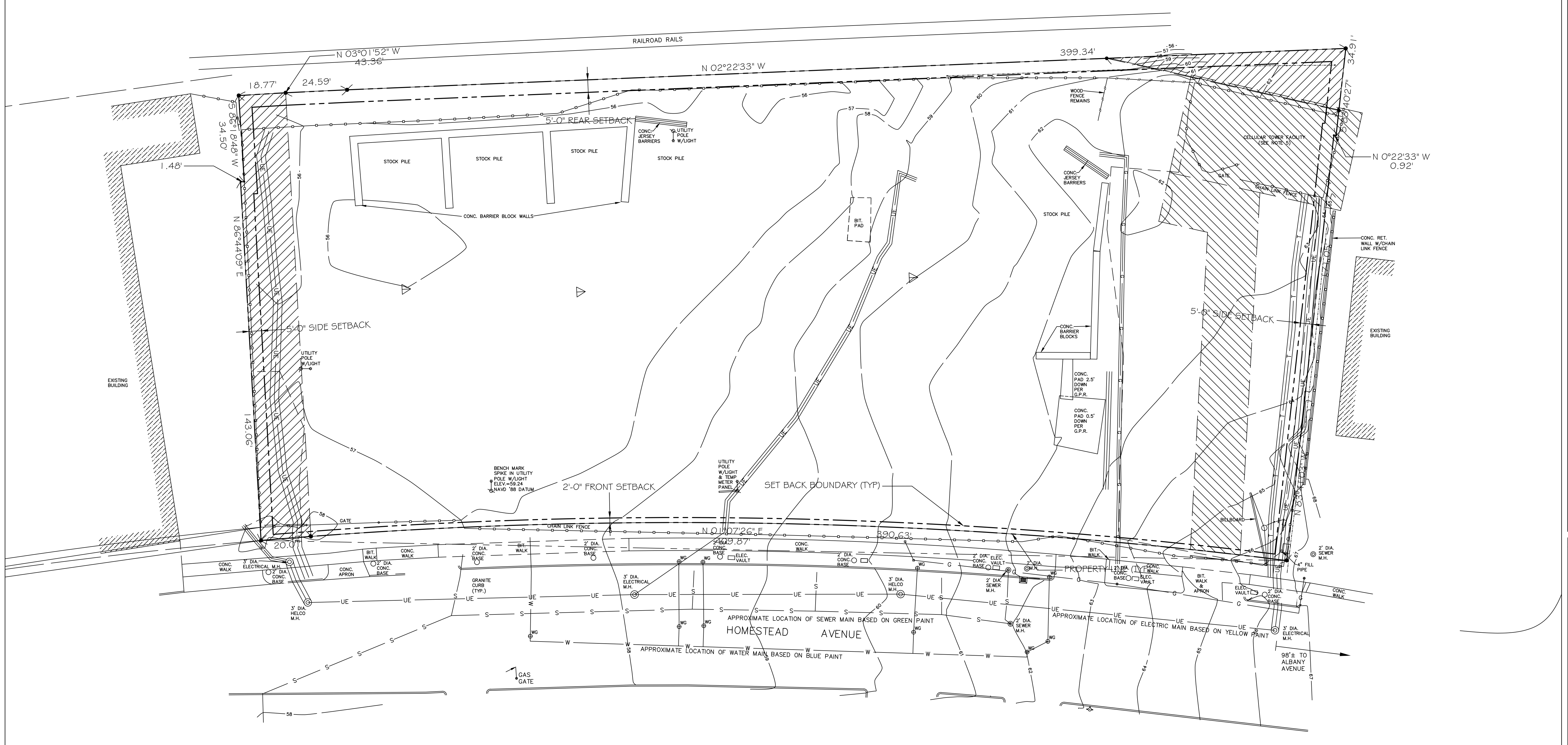
SURE SOURCE 4000™  
 POWER PLANT  
 439 HOMESTEAD AVENUE  
 HARTFORD, CT

EXISTING CONDITIONS

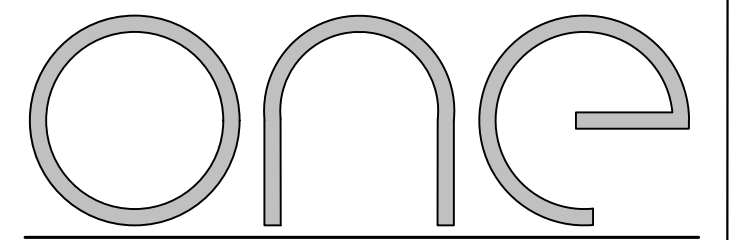
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 DATE 3/7/19  
 DESIGNED BY YEVENIY KARCHA  
 CHECKED BY

C-001

SCALE 1"=20'-0"



PROJECT DESIGNER



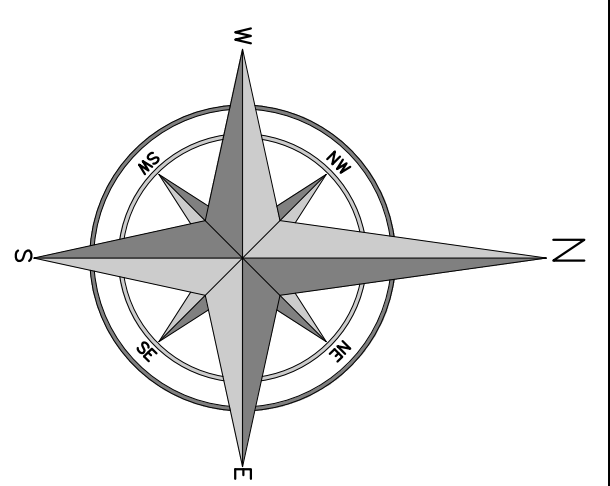
68 UNION STREET WESTFIELD, MA 01085 P: (413) 485-4060  
90 MAIN STREET P.O. BOX 820 CENTERBROOK, CT 06426 P: (860) 982-0889  
[www.one-d-c.com](http://www.one-d-c.com)

PROJECT DEVELOPER

CONSULTING ENGINEER

PROFFESIONAL SEAL

DRAWING ORIENTATION



NOTES/COMMENTS

NO. DESCRIPTION DATE

NO.	DESCRIPTION	DATE

SURE SOURCE 4000™ POWER PLANT  
439 HOMESTEAD AVENUE  
HARTFORD, CT

SITE LAYOUT

PROJECT NUMBER  
DATE 3/7/19  
DESIGNED BY YEVENIY KARCHA  
CHECKED BY

C-002

SCALE 1"=20'-0"

