

**Rezoning
Staff Report**

Planning & Zoning Commission Public Hearing Date: May 8, 2023
City Council Public Hearing Date: May 15, 2023

Rezoning Case: Z23-05
Property Owner(s): Michael Kirtley
Applicant(s): Black Mountain Energy Storage II LLC.
Legal Description: Lot 265 of Tomball Townsite
Location: 900-1000 blocks (west side) of S. Pitchford Road
Area: 5.00 acres
Comp Plan Designation: Business Park and Industrial (Exhibit “B”)
Present Zoning: Agricultural (AG) (Exhibit “C”)
Request: Rezone from Agricultural (AG) to the Light Industrial (LI) district
Adjacent Zoning & Land Uses:
North: Agricultural (AG)/ Vacant/Electric Utility Infrastructure
South: Agricultural (AG)/ Single Family residence
West: Agricultural (AG) / Single-family residence
East: Agricultural (AG) / Agricultural Accessory Structures

BACKGROUND

The subject property has been within the City Limits of Tomball since at least 1907. The property has remained vacant since that time. The applicants are requesting to rezone the subject property to Light Industrial in conjunction with a separate request for a Conditional Use Permit to allow an “Electric Storage System” land use. There has been a lot of interest in the development of an “Electric Storage System” within the City of Tomball, particularly the development of such a facility near the existing CenterPoint Energy substation located in the 900 block of S. Pitchford Road. This interest has led to the City Council adopting amendments to the City of Tomball Code of Ordinance earlier this year (Ordinance No. 2023-03). This ordinance created the “Electric Storage System” land use, which also provided a definition to the land use and specified that such uses shall only be permitted within the Light Industrial zoning district with the approval of a Conditional Use Permit. City staff met with the applicants on a few occasions over the past several months to discuss the potential for their development. During these meetings staff expressed the concerns discussed by the City Council which were brought up during separate meetings with a different company interested in a similar development located in the same general vicinity. Specifically, staff shared City Councils concerns regarding the safety of locating such facilities in such close proximity to Old Town Tomball and the nearby existing residences.

ANALYSIS

Description: The subject property comprises 5.00 acres, located in the 900-1000 block (west side) of S. Pitchford Road. Currently the subject property is located within the Agricultural zoning district and has been within this zoning classification since the City of Tomball adopted zoning in 2008. All properties within the immediate vicinity are also located within the Agricultural zoning district. The neighboring property to the north is currently vacant property owned by CenterPoint Energy, this property is predominantly vacant aside from the electric utility infrastructure which is extending from the neighboring substation. The neighboring property to the south as well as the property immediately east of the subject property located on the east side of S. Pitchford Road are occupied by single family residences. The neighboring property to the west according to Harris County Appraisal District records is currently occupied by accessory agricultural structures.

Comprehensive Plan Recommendation: The property is designated as “Business Park & Industrial” by the Comprehensive Plans Future Land Use Map. This Business Park & Industrial category is intended to create opportunities for employment. The uses that are to be promoted in this designated land use should be uses that benefit from proximity to major thoroughfares which provide convenient access for vehicle traffic, including freight traffic.

According to the Comprehensive Plan, land uses should consist of office, warehousing, light manufacturing (with indoor operations), breweries/distilleries, equipment sales, contractor services, and corporate campuses. Appropriate secondary uses may include things such as utility services, government facilities, and transportation/freight uses.

The Comprehensive Plan recommends the zoning districts of – Light Industrial (LI), Commercial (C), Office (O), or Planned Developments (PD) for the Business Park & Industrial land use category.

Staff Review Comments:

The request to rezone the subject property to Light Industrial (LI) is in direct alignment with the Future Land Use Plans objective of establishing the Business Park & Industrial land use category on the subject property. However, there are development concerns pertaining to access to an industrial site from S. Pitchford Road. As mentioned in the Comprehensive Plan, additional consideration should be taken toward the location of Business Park & Industrial land uses when evaluating the proximity of industrial sites to major thoroughfares. Such projects benefit most from sites that can provide convenient access to major thoroughfares for vehicle traffic, including freight traffic. Given that S. Pitchford Road currently has a pavement width of approximately 16-feet wide, it is not presently suited for freight traffic. Any potential development within the proposed Light Industrial zoning district which may generate freight traffic would likely require the submission of a traffic impact analysis and would potentially require improvement to S. Pitchford Road prior to the approval of Site/Building plans by the City of Tomball. This concern is ultimately to provide context and should hold no bearing on the decision of whether Light Industrial zoning is appropriate for the parcel. As any such improvement to S. Pitchford will be decided at the time of development.

PUBLIC COMMENT

A Notice of Public Hearing was published in the paper and property owners within 300 feet of the project site were mailed notification of this proposal on April 18, 2023. Any public comment forms will be provided in the Planning & Zoning Commission and City Council packets or during the public hearing.

RECOMMENDATION

Based on the findings outlined in the analysis section of this staff report, City staff recommends approval of Zoning Case Z23-05.

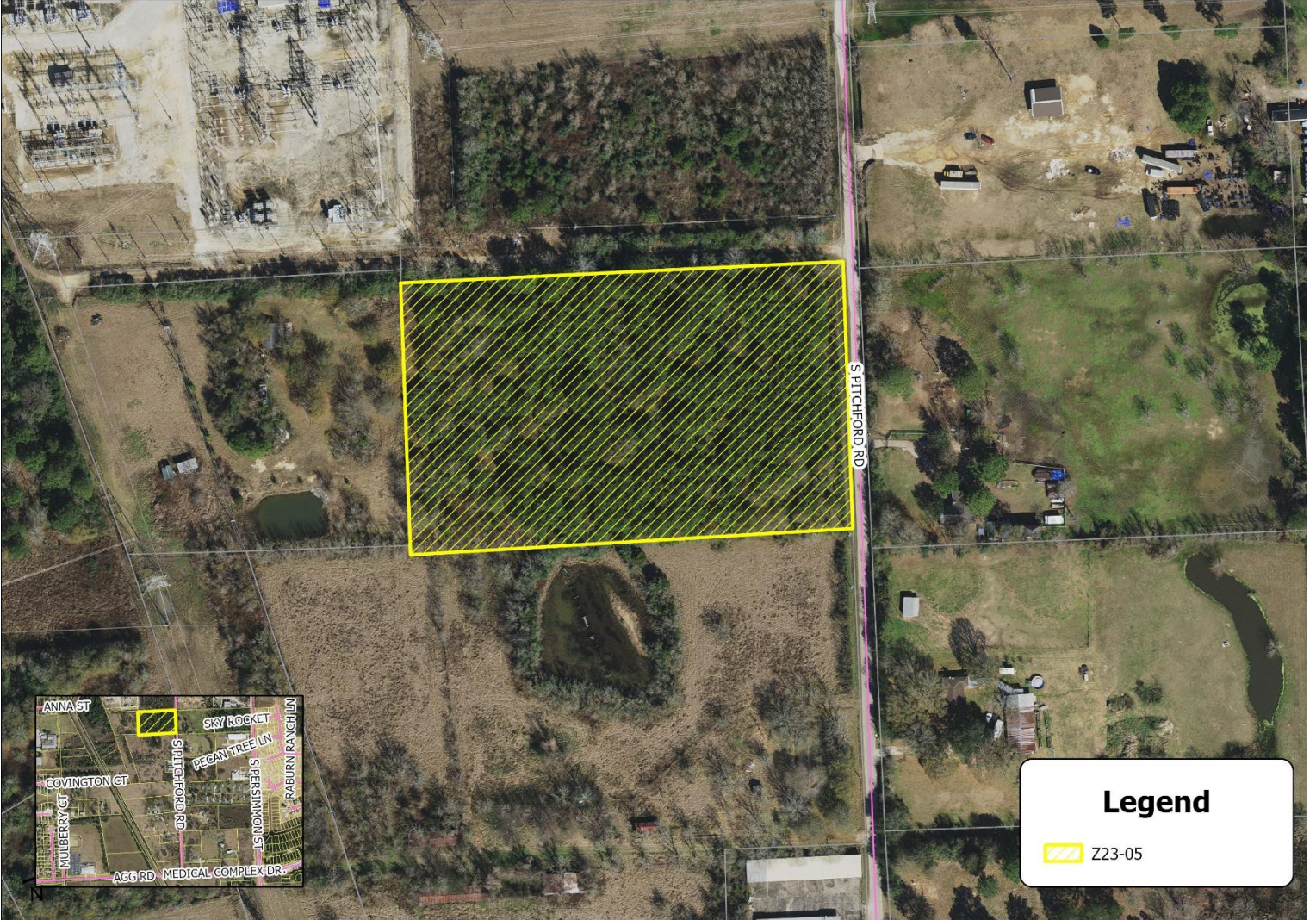
EXHIBITS

- A. Location Map
- B. Future Land Use Map
- C. Zoning Map
- D. Site Photo
- E. Rezoning Application

Exhibit "A"
Aerial Location Map



Location Map



Legend


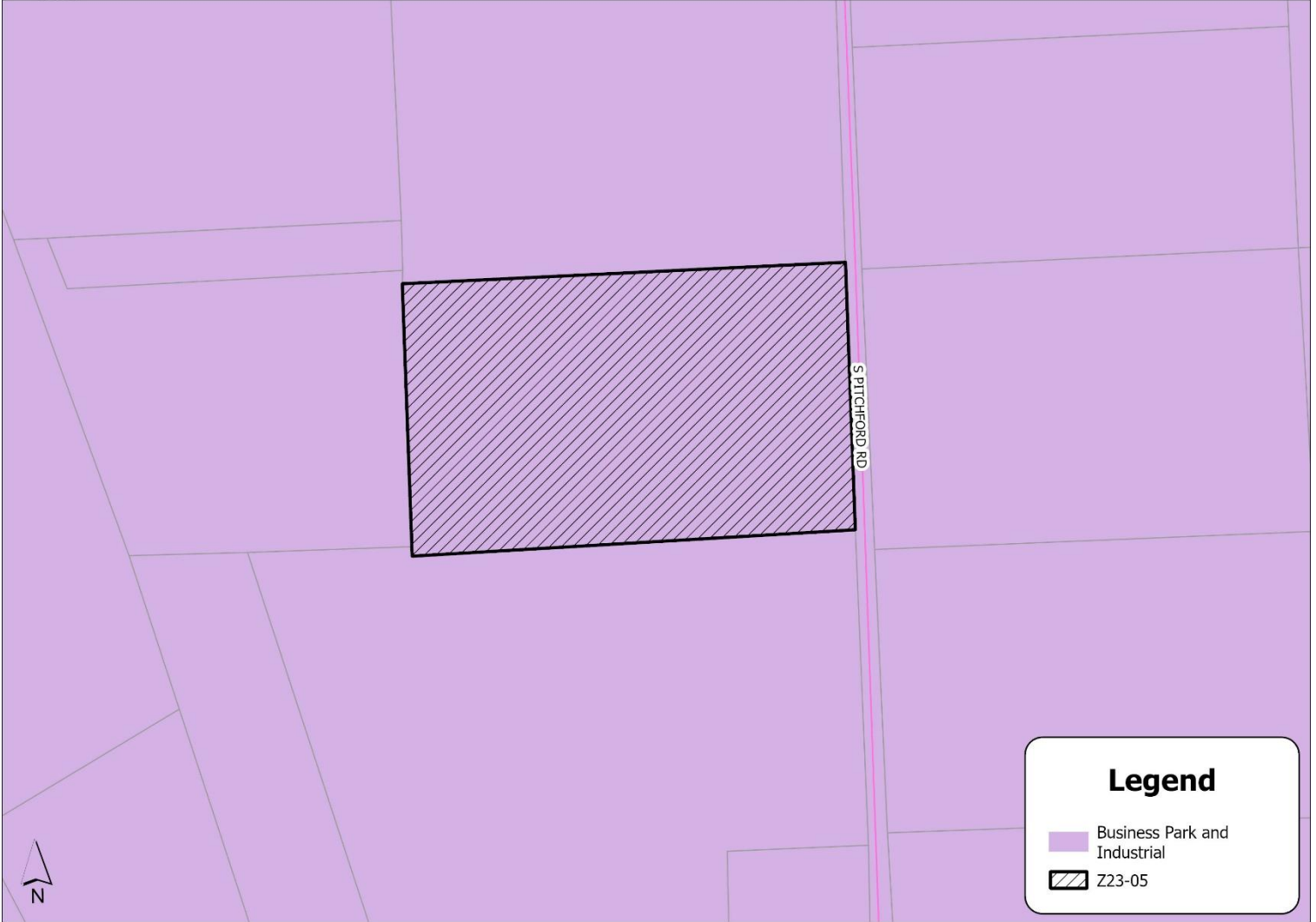
 Z23-05

Exhibit "B"
Future Land Use Plan



Future Land Use Map



Legend

-  Business Park and Industrial
-  Z23-05

Exhibit "C"
Zoning Map

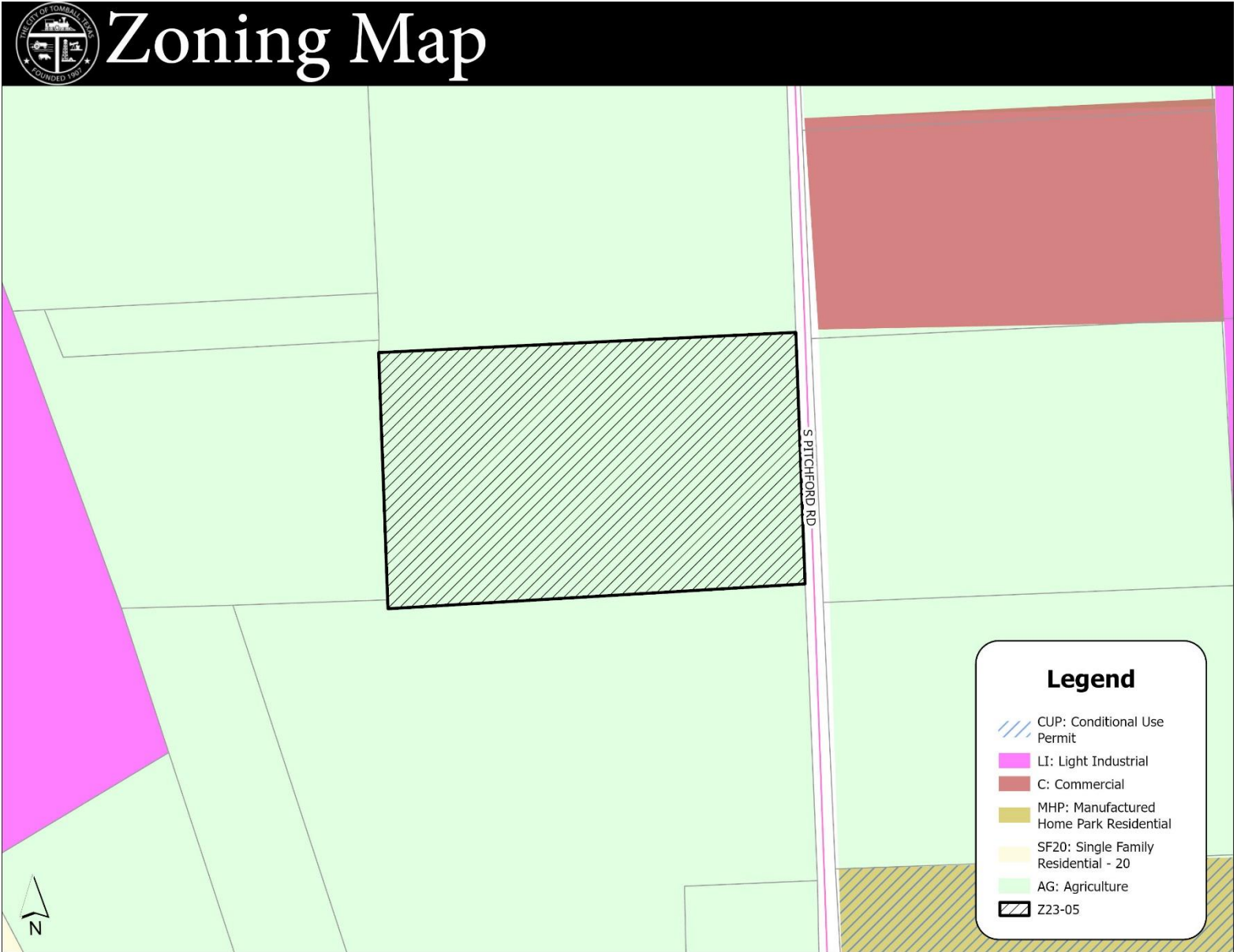


Exhibit "D"
Site Photo(s)

Subject Site



Neighbor (East)



Neighbor (South)



Neighbor (North)

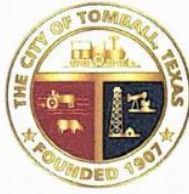


Neighbor (Northwest)



Exhibit "E" Rezoning Application

Revised: 10/1/2022



APPLICATION FOR RE-ZONING

Community Development Department
Planning Division

APPLICATION REQUIREMENTS: Applications will be *conditionally* accepted on the presumption that the information, materials and signatures are complete and accurate. If the application is incomplete or inaccurate, your project may be delayed until corrections or additions are received.

There is a \$1,000.00 application fee that must be paid at time of submission or the application will not be processed.

DIGITAL PLAN SUBMITTALS:

PLEASE SUBMIT YOUR APPLICATIONS AND PLANS DIGITALLY IN A SINGLE PDF BY FOLLOWING THE WEBSITE BELOW:

WEBSITE: tomballtx.gov/secure/send
USERNAME: [tomballedd](#)
PASSWORD: [Tomball](#)

Applicant

Name: Sam Jackson Title: Director of Development
Mailing Address: 425 Houston Street, Suite 400 City: Fort Worth State: Texas
Zip: 76102 Contact: _____
Phone: (215) 022-0210 Email: sam.jackson@blackmtm.com

Owner

Name: Michael W. Kirtley Title: Landowner
Mailing Address: 15714 Oxenford Dr. City: Tomball State: Texas
Zip: 77377 Contact: _____
Phone: (281) 932-4904 Email: mkk@houstone@yahoo.com

Engineer/Surveyor (if applicable)

Name: Justin W. Cantwell, RPLS Title: Survey Division Manager
Mailing Address: 8312 Upland Avenue City: Lubbock State: Texas
Zip: 79424 Contact: _____
Phone: (806) 570-9899 Fax: (____) _____ Email: jcantwell@centerlineengineering.net

Description of Proposed Project: Utility-scale battery energy storage system (BESS) facility

Physical Location of Property: Property on the southwest corner of S. Live Oak St. and Pitchford Rd.
[General Location – approximate distance to nearest existing street corner]

Legal Description of Property: All of lot 265 of Tomball Townsite - Volume 2, Page 265, Deed Records of Harris County
[Survey/Abstract No. and Tracts; or platted Subdivision Name with Lots/Block]

Current Zoning District: Agriculture

City of Tomball, Texas 501 James Street, Tomball, Texas 77375 Phone: 281-290-1405 www.tomballtx.gov

Current Use of Property: Unoccupied vegetation

Proposed Zoning District: Light Industrial

Proposed Use of Property: Battery Energy Storage System (BESS)

HCAD Identification Number: 0352880000265 Acreage: 4.8

Please note: A courtesy notification sign will be placed on the subject property during the public hearing process and will be removed when the case has been processed.

This is to certify that the information on this form is COMPLETE, TRUE, and CORRECT and the under signed is authorized to make this application. I understand that submitting this application does not constitute approval, and incomplete applications will result in delays and possible denial.

Samuel Jackson 3/15/2023
Signature of Applicant Date

Michael Kutley 3/21/2023
Signature of Owner Date

BC Global LP

Alberto P. Cardenas, Jr. beto@bcglobal.law
Office +1.713.731.1050 Mobile +1.713.818.2497

March 16, 2023

Mr. Jared Smith, City Planner
City of Tomball
401 Market Street
Tomball, Texas 77375

Dear Mr. Smith:

Please accept this letter together with the attached, completed applications for Re-Zoning and a Conditional Use Permit on behalf of our client GridStor, and the applicant company Black Mountain Energy Storage II, LLC (BMES), for consideration by the City of Tomball, Texas.

BMES and its development partner GridStor are proposing to develop and construct a 200 MW Battery Energy Storage System (BESS) within the City. The proposed project, with a targeted commercial operations date of June 2025, is being considered on a single, contiguous, five-acre parcel located at the corner of Pitchford Road and South Live Oak Street (Harris County Appraisal District Account No. 0352880000265). This land, secured by BMES via a Lease Agreement, had been previously used for energy related purposes and is currently zoned by the City for agricultural use. Should the project proceed, it would be adjacent to CenterPoint Energy's substation and provide connectivity to the Electric Reliability Council of Texas (ERCOT) transmission grid via the City's substation, providing ERCOT more flexibility to respond to extreme events and thereby helping reduce energy power prices for consumers.

We understand that the City recently amended its Code of Ordinances to define and allow "Energy Storage Systems" within Light Industrial Zones. Accordingly, our client is therefore requesting Re-Zoning of the property from Agricultural to Light Industrial. Further, we recognize that a Conditional Use Permit would be required and have therefore paired and provided both applications for the City's consideration.

Included with this letter is additional information we believe will be helpful to the City as they review these applications. We look forward to working with you in the coming weeks to continue the discussions for this proposed project and its economic development opportunities.

Respectfully Submitted,



Alberto P. Cardenas, Jr.

BC Global LP
Law Offices of Alberto P. Cardenas, Jr., PLLC
Texas New York Washington

The Niels Esperson Building
808 Travis Street, Suite 1424
Houston, TX 77002
www.bcglobal.law

Proposed Project Background and Value Proposition

BMES filed an Interconnection Application with CenterPoint and ERCOT on March 22, 2022, to initiate the electrical study process required to support the interconnection of the proposed project to the existing CenterPoint Tomball substation. BMES and its employees have over 6 years of experience working with CenterPoint in scoping and interconnecting Battery Energy Storage Systems within Texas.

The project company has commissioned the following environmental studies to further de-risk the project site and ensure all environmental concerns are addressed: Phase 1 Environmental Site Assessment, Critical Issues Analysis, Wetland Delineation & Determination Report, Threatened & Endangered Species Report, and a Cultural & Historical Resources Report. All environmental studies have come back favorable, with no adverse environmental impacts anticipated as a result of development.

BESS provide significant benefits to Texans and the electric grid they depend upon, including:

Firm, dispatchable power to enhance grid reliability and balance the system. BESS delivers instantaneous power at times of peak energy demand, improving grid reliability and helping keep the lights on for homes, business owners, commercial and governmental facilities, and industrial users alike.

Energy to support Texas' economic development. Houston is forecasted to see a 10-15% increase in regional energy demand in the next 10 years, with a decline in firm power as older and uneconomic coal and gas plants retire and go offline. BESS will play a key role in replacing aging plants and supporting Texas' continued growth and economic development.

Energy bill savings by storing energy when power prices are low and discharging during high demand events, providing more power supply when needed the most.

Battery energy storage provides significant local investment opportunities in Texas communities, supports local landowners via land leases or acquisitions, and broadens local tax bases. This project is expected to provide tens of millions of dollars of property tax benefit to the City of Tomball and Harris County over two decades.

Technical Summary: Battery Energy Storage Systems

Battery Energy Storage Systems are the leading technology for the storage of electricity to provide resiliency to the electric grid. The main battery technology is lithium-ion and within that the two main chemistries are Nickel Magnesium Cobalt (NMC) and lithium iron phosphate (LFP). For this project, LFP is the intended chemistry to be used due to its safer properties.

The most basic block of a battery is the battery cell. Each cell is combined with other cells into a battery module which provides a more usable form factor for energy systems. These modules are

installed in racks inside a metal enclosure. These metal enclosures typically are 20 to 40 ft in length, 6-8 ft wide and 8 ft tall. An enclosure typically provides around 3-5 Megawatt Hours of energy.

A proposed project consists of many number of enclosures to create the required energy capacity. Since the batteries provide direct current (DC) power, an inverter is needed to convert the DC power into alternating current (AC) power. Inverters typically range from 1 to 5MW in size and may have one or several enclosures connected to each. Given the project is tied to the utility grid, the AC power is stepped up from ~600-690VAC from the inverter to 34.5kV or higher to tie into the grid. This step up is performed by the power transformers and may go through two sets (medium voltage transformer and a main power transformer). The main power transformer is located in a substation on site which provides high voltage control and protection.

The proposed project will have a site controller that will safely operate the batteries and all associated equipment. Market signals are sent to the site controller for the project to follow. Additionally, there will be a robust fire safety system for the site.

Fire Safety Considerations

National Safety Standards: One of the top considerations for battery energy storage systems is safety. The National Fire Protection Association and Underwriters Laboratory have established robust safety standards specific to lithium-ion battery energy storage systems. The most relevant standards are overviewed below:

Standard	Description (Project Context)	Scope
UL 9540	Safety standard for energy storage systems and equipment. Aggregation of 1973, 1741, and fire safety at a system level, not just stand-alone equipment.	System
UL 9540A	Standard for Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems, prescribes procedure to perform cells –large scale fire testing.	DC Block
UL 1973	Safety standard for batteries used in stationary applications. Includes mechanical, electrical, and fire tests at cell level.	Inverter
UL 1741	Complement to IEEE 1547 –Interconnection of DR, functional, performance, and safety requirements for inverters.	Cells, Modules
NFPA 855	Standard for the installation of energy storage systems and references UL9540A test method	System/Facility

The Proposed Project will meet or exceed all applicable national safety standards.

Fire Safety Features: The industry has developed a multi-layered approach for monitoring and mitigating any fire safety event. As part of our approach to the project design, the safety features will be designed into an integrated system that is specific to the project needs.

Additional highlights and monitoring and mitigation features that may be deployed include:

- Battery Management System – continuously monitors health and safety of battery and provides controlled shutdown in abnormal conditions to provide early-fault detection and mitigation
- Smoke and heat detectors – may be designed either internally or externally to enclosure, providing detection and annunciation of an abnormal event.
- Gas detectors – monitors and detects off-gassing that may indicate early-stage abnormal event and provides controlled shutdown and ventilation to mitigate an explosive condition.
- Layout Separation Distance – UL 9540a is a large-scale fire test standard that determines the minimum separation distance between enclosures to prevent fire propagation. This separation distance is then utilized in the site spacing between battery enclosures.
- Module and Enclosure – batteries are encased in metal shells and enclosures to reduce propagation.
- Gas Ventilation/Deflagration Panels – prohibits the buildup of gases reaching unsafe conditions within an enclosure or allows controlled release of gases.
- Water suppression – water may be utilized to control fire propagation.
- Electrical safety design – devices such as fuses, circuit breakers, surge protection device, insulation monitoring device and others protect the electrical system from a fault condition.

Emergency Response Plan: An emergency response plan is a project specific document that details the procedure operators, first responders, and other stakeholders must follow during a safety event. For the project, there are 3 phases for the ERP including:

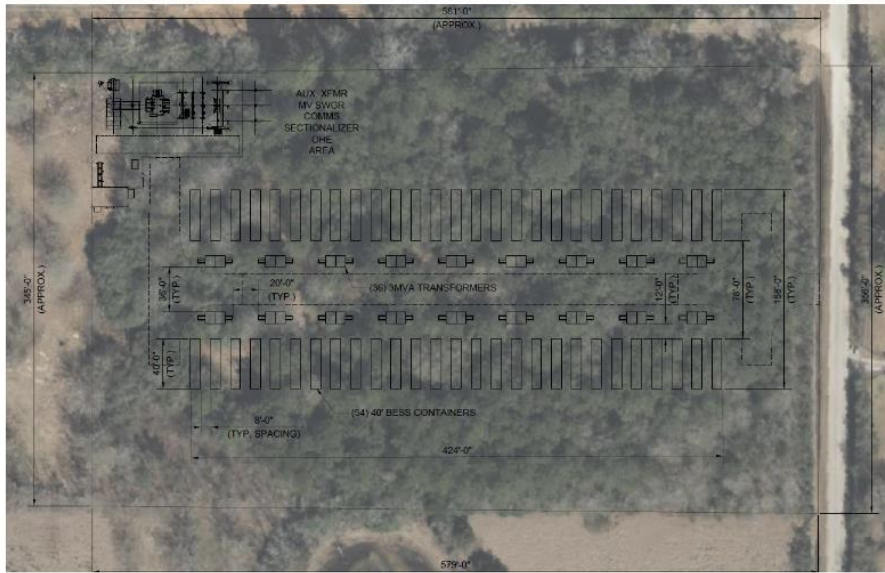
During Construction – City, Fire Department, Developer, equipment manufacturers, and fire safety consultants work together to establish the plan requirements based on land-use and resource protection limitations. This may include proximity to populated area(s), sensitive natural resources, and critical infrastructure. Once the requirements are established, the stakeholders will prepare a site-specific emergency response plan. The Plan will define the roles and responsibilities and covers potential emergency scenarios including fire. It is common to establish an agreed upon fire command center location onsite for first responders. The fire command center will typically include access for first responders to view the operating data of the site including cell temperatures, battery operating status, alarm status, and many other data points to help assess the situation.

Commissioning – During this phase, there will be onsite safety training of fire personnel and onsite project staff and covers all components of the emergency response plan.

Operations – During this phase, the emergency response plan is implemented. There will be ongoing drills, training, and refreshing of the plan as needed.

Hazard Mitigation: A hazard analysis report will be conducted to evaluate the site-specific impacts of a battery installation. The hazard analysis report will account for the expected lithium-ion battery technology and its data including temperature and quantity and types of gases generated during a thermal runaway event. This Report will be used to analyze impact to key receptors that have been identified. The goal of the hazard analysis is to provide quantitative analysis to the potential impacts of the project as well as provide for recommended mitigation strategies to minimize those impacts.

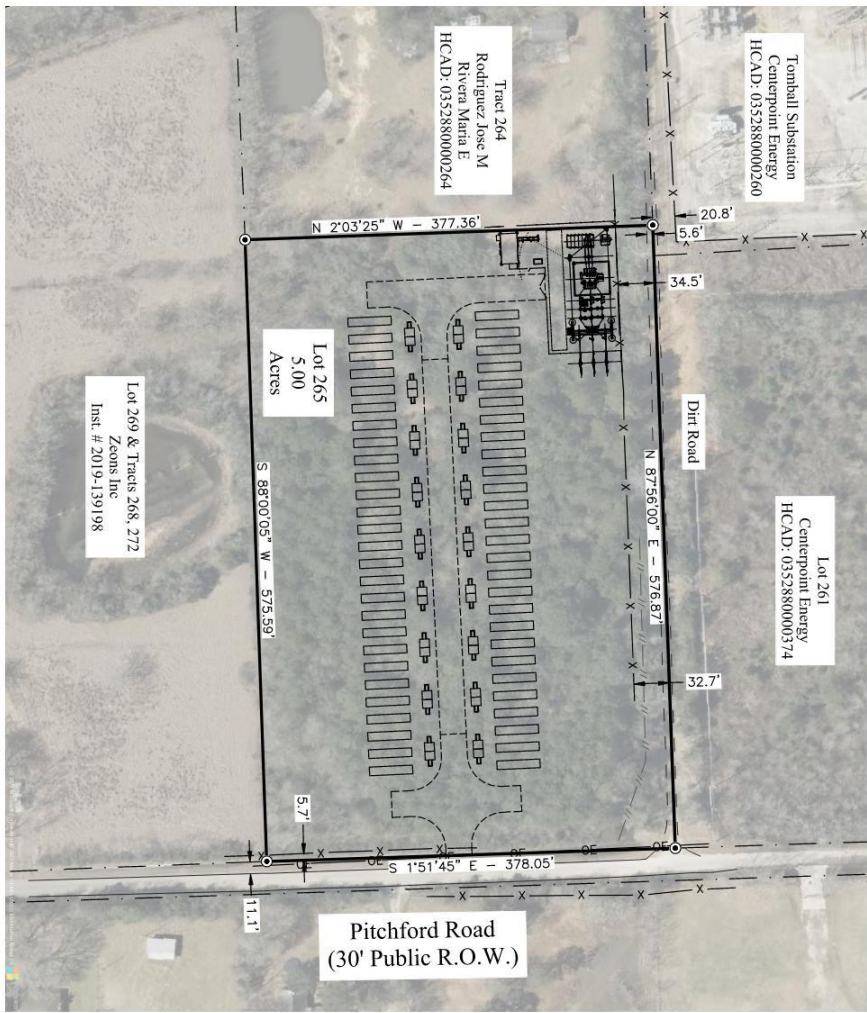
Site Configuration (Preliminary Design):



Site Configuration (Digital Renderings):



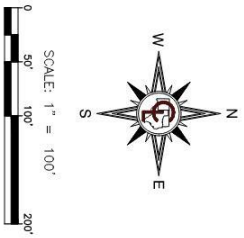
Note: Renderings are not specific to proposed site and are representative of BESS facilities.



- LEGEND**
- Found 1/2" Iron Rod
 - Property Line
 - Lot Line
 - x-x- Fence Line
 - // Pipeline

HARRIS COUNTY, TEXAS

All of Lot Two Hundred Sixty-Five (265) of Tomball Townsite, a subdivision in Harris County, Texas, according to the Map or Plat thereof recorded in Volume 2, Page 265, Deed Records of Harris County, Texas.

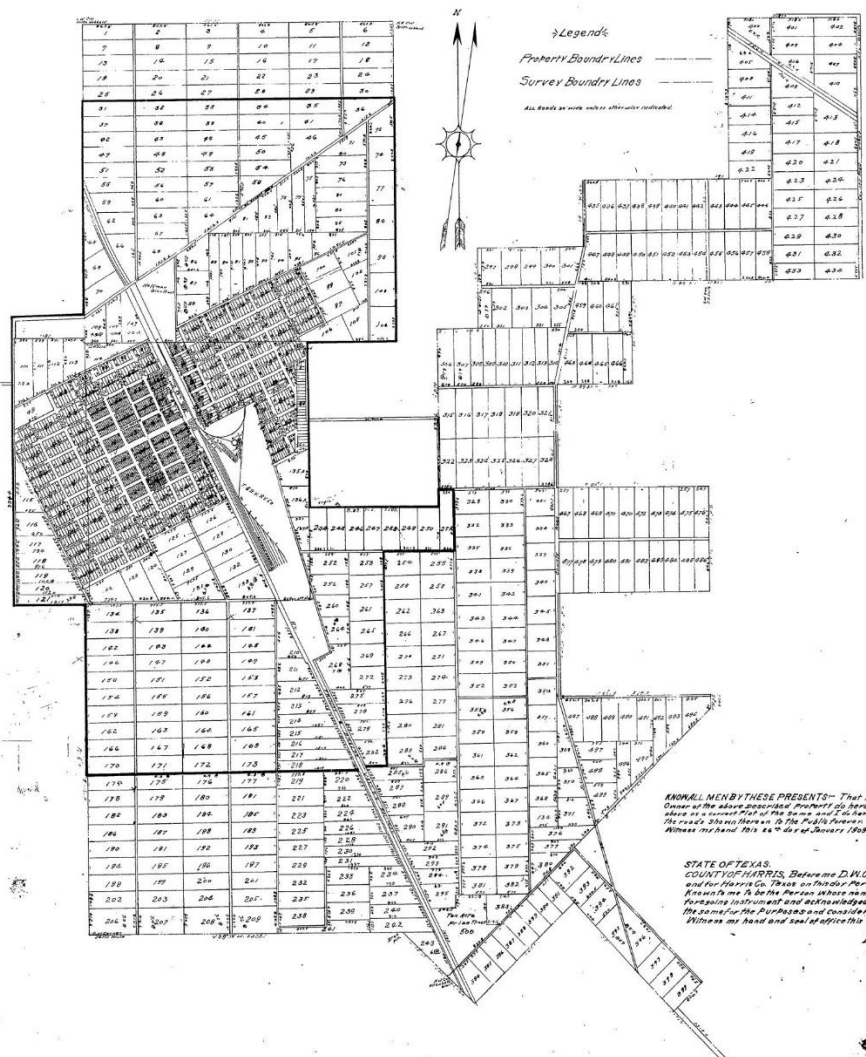


SITE LAYOUT

Merchant Site
 GF# 181873TTX
 Lot 265
 Tomball, Harris County, Texas

Bearings Based on GPS Observations; Texas State Plane Coordinate System, South Central Zone, NAD 83 Datum

ZENTRUM ENGINEERING & CONSULTING, LLC
 ENGINEERING & CONSULTING, LLC
 4100 W. Loop South, Suite 1000
 Houston, Texas 77056
 (713) 476-8888
 FAX (713) 476-8888
 CENTRUM, LLC
 2000 W. Loop South, Suite 1000
 Houston, Texas 77056
 (713) 476-8888
 FAX (713) 476-8888



KNOW ALL MEN BY THESE PRESENTS: That I, *Wm. Malone*, Owner of the above described property do hereby certify that the above is a correct plat of the same and I do hereby certify that the same is the property of the said *Wm. Malone*. Witness my hand and seal of office this 26th day of January, 1902.

William Malone

STATE OF TEXAS,
COUNTY OF HARRIS, Before me, *D.W. COOLEY*, a Notary Public,
and for purposes of this instrument, *Wm. Malone*
Knows me to be the Person whose name is subscribed to the
 foregoing instrument and acknowledged to me that he executed
 the same for the purposes and consideration therein expressed.
 Witness my hand and seal of office this 26th day of January, 1902.

D.W. COOLEY
Notary Public, Harris Co., Tex.

FIVE ACRE TRACTS TOM BALL TOWNSITE.

Date Nov 15 1902. ORIGINAL Scale 1" = 40' reduced to 1" = 80'
M 48285.
Filed for record May 16, 1902 at 2:25 P.M. Record AM 4970 of 5716
Geo. Jones, County Clerk, and for Harris County, Texas.
B. H. Mingo, Deputy

Metes and Bounds

BEING all of Lot Two Hundred Sixty-five (265) of Tomball Townsite Addition to Harris County, Texas, as recorded in Volume 2, Page 265, Deed Records of Harris County, Texas, ad being further described by metes and bounds as follows:

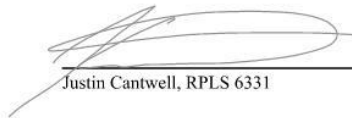
BEGINNING at a 1/2 Inch Iron Rod Found for the Northeast Corner in the West Right-of-Way line Pitchford Road, same being the Southeast Corner of Lot 261 of said Tomball Townsite;

THENCE South 1°51'45" East - 378.05 feet along the West Right-of-Way line of said Pitchford Road to a 1/2 Inch Iron Rod Found for the Southeast Corner, same being the Northernmost Northeast Corner of Lot 269 of said Tomball Townsite;

THENCE South 88°00'05" West - 575.59 feet along the North line of said Lot 269 to a 1/2 Inch Iron Rod Found for the Southwest Corner, same being the Southeast Corner of Lot 264 of said Tomball Townsite;

THENCE North 2°03'25" West - 377.36 feet along the East line of said Lot 264 to a 1/21Inch Iron Rod Found for the Northwest Corner, same being the Northeast Corner of said Lot 264;

THENCE North 87°56'00" East - 576.87 feet along the South line of said Lot 261 to the POINT OF BEGINNING and containing within these calls a calculated area of 5.00 Acres more or less.


Justin Cantwell, RPLS 6331

Date: March 15, 2023





ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. IT IS THE PROPERTY OF SUNGRID AND IS LOANED TO YOU BY SUNGRID. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED IN THIS DOCUMENT. IT IS NOT TO BE REPRODUCED, COPIED, DISTRIBUTED, OR DISCLOSED TO ANY OTHER PARTY WITHOUT THE WRITTEN PERMISSION OF SUNGRID. SUNGRID ASSUMES NO LIABILITY FOR ANY ERRORS OR OMISSIONS. SUNGRID DISCLAIMS ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SUNGRID'S LIABILITY IS LIMITED TO THE AMOUNT PAID TO SUNGRID FOR THE SERVICES PROVIDED.

CONSULTANT

 10000 20th St, Fort Worth, TX 76135
 1-800-452-1145
www.sungrid.com

CLIENT

 BLACK MOUNTAIN ENERGY SERVICES
 10000 20th St, Fort Worth, TX 76135

REGISTRATION

ISSUE/REVISION

NO.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	04/10/2024	WJL/MLL

PROJECT NUMBER
 9912

PROJECT
 MERCHANT BESS
 200 SHAW DR, MERCHANT BESS
 80711-2047, TX

SHEET TITLE
 GENERAL SITE PLAN

SCALE: 1"=60'
 SHEET NUMBER: REV. A
 9912 MERCHANT-ELE-PLAN-001



ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. IT IS THE PROPERTY OF SUNGRID AND IS LOANED TO YOU BY SUNGRID. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED IN THIS DOCUMENT. IT IS NOT TO BE REPRODUCED, COPIED, DISTRIBUTED, OR DISCLOSED TO ANY OTHER PARTY WITHOUT THE WRITTEN PERMISSION OF SUNGRID. SUNGRID ASSUMES NO LIABILITY FOR ANY ERRORS OR OMISSIONS. SUNGRID DISCLAIMS ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SUNGRID'S LIABILITY IS LIMITED TO THE AMOUNT PAID TO SUNGRID FOR THE SERVICES PROVIDED.

CONSULTANT

 10000 20th St, Fort Worth, TX 76135
 1-800-452-1145
www.sungrid.com

CLIENT

 BLACK MOUNTAIN ENERGY SERVICES
 10000 20th St, Fort Worth, TX 76135

REGISTRATION

ISSUE/REVISION

NO.	DESCRIPTION	DATE	BY
1	ISSUE FOR PERMIT	04/10/2024	WJL/MLL

PROJECT NUMBER
 9912

PROJECT
 MERCHANT BESS
 200 SHAW DR, MERCHANT BESS
 80711-2047, TX

SHEET TITLE
 GENERAL SITE PLAN

SCALE: 1"=60'
 SHEET NUMBER: REV. A
 9912 MERCHANT-ELE-PLAN-002