

Appendix J

Wetland Delineation Report

Mountain Peak Energy Storage
Conditional Use Permit Application
September 2025

Wetland and Waterways Delineation Report

Mountain Peak Energy Storage Project Saline County, Kansas

June 2023



Prepared for

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Acronyms and Abbreviations

APT	USACE Antecedent Precipitation Tool
CFR	Code of Federal Regulations
EPA	U.S. Environmental Protection Agency
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
FEMA	Federal Emergency Management Agency
IP	Individual Permit
NHD	National Hydrography Dataset
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWP	Nationwide Permit
OBL	obligate wetland
OHWM	ordinary high-water mark
PCN	Pre-Construction Notification
PEM	palustrine emergent wetland
Project	Mountain Peak Energy Storage Project
Project Area	Project area totaling 39.4 acres within Saline County, Kansas
SSURGO	Soil Survey Geographic (database)
Tetra Tech	Tetra Tech, Inc.
TNW	traditional navigable waters
UPL	upland
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WOTUS	waters of the U.S.

1.0 INTRODUCTION

Tetra Tech, Inc. (Tetra Tech) conducted a wetlands and Waters of the United States (WOTUS) delineation for the proposed Mountain Peak Energy Storage Project (Project; Figure 1). The Project Area consists of one approximately 39.4-acre privately owned parcel (Project Area). The Project Area is located in Saline County, Kansas, north of State Highway 4 and west of S. Simpson Road, approximately 4.5 miles southeast of the city of Salina, KS (Figure 2). The purpose of the delineation was to document current site conditions and determine the extent of wetlands, streams, and open waters within the Project Area pursuant to Section 404/401 of the Clean Water Act (33 United States Code [U.S.C.] 1344). This delineation report summarizes the Project Area setting, regulatory framework, methodology used, and results of the field survey.

1.1 Ecoregion

The Project Area occurs within the Central Great Plains Level III Ecoregion of Kansas (Chapman et al. 2001). The Central Great Plains Ecoregion is now mostly cropland but was previously a sprawling grassland dominated by mixed-grass prairie, with low trees and shrubs in its southern extent. The Project Area is further located within the Smoky Hills Level IV Ecoregion, which is described as undulating to hilly plains, with historic tallgrass prairie to the east and mixed-grass prairie to the west. Present day land use in the Smoky Hills ecoregion is dominated by cropland and grassland (Chapman et al. 2001).

1.2 Topography

According to the USGS Assaria 1:24,000 topographic quadrangle, the Project Area largely consists of flat land with one stream depicted within the Project boundary (USGS 2022). Elevations range from 1,310 feet to 1,360 feet above mean sea level. The Project Area gently slopes west (Figure 3).

2.0 REGULATORY FRAMEWORK

2.1 Section 404 of the Clean Water Act

The principal federal laws affecting wetlands and streams are Section 404 of the Clean Water Act (CWA) of 1977 as amended and Section 10 of the Rivers and Harbors Act of 1899. However, all water features in the Project Area would be subject to the CWA rather than the Rivers and Harbors Act because no navigable water features are present in the Project Area. Therefore, this section focuses on Section 404 of the CWA.

Section 404 of the CWA is administered jointly by the U.S. Army Corp of Engineers (USACE) and the Environmental Protection Agency (EPA) and authorizes USACE to regulate the discharge of dredge/fill materials into WOTUS, including wetlands and streams. According to 33 Code of Federal Regulations (CFR) 328.3(c)(4), the term wetlands is defined as those areas that “are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (Environmental Laboratory 1987). Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR 328.39b); Environmental Laboratory 1987).

On December 30, 2022, the EPA and USACE announced that a final rule founded upon the pre-definition of “waters of the United States” (i.e., WOTUS) had been updated to reflect consideration of Supreme Court decisions, the science, and the agencies’ technical expertise.

Under the 2022 final rule, determining jurisdiction for tributaries, adjacent wetlands, and additional waters relies upon applying either the “relatively permanent standard” or “significant nexus standard”:

The relatively permanent standard is a test that provides important efficiencies and clarity for regulators and the public by readily identifying a subset of waters that will virtually always significantly affect traditionally navigable waters, interstate waters, the territorial sea, or impoundments of the these (paragraph (a)(1)) waters. To meet the relatively permanent standard, the waterbodies must be relatively permanent, standing, or continuously flowing waters connected to paragraph (a)(1) waters, or waters with a continuous surface connection to such relatively permanent waters, or to paragraph (a)(1) waters.

The significant nexus standard is a test that clarifies whether certain waterbodies, such as tributaries and wetlands, are subject to the CWA based on their connection to and effect on larger downstream waters that Congress fundamentally sought to protect. A significant nexus exists if the waterbody (alone or in combination) significantly affects the chemical, physical, or biological integrity of traditional navigable waters, the territorial seas, or interstate waters. (EPA 2023)

However, this test was just overturned on May 25, 2023, by the Supreme Court in *Sackett v EPA*. Ultimately, the Supreme Court disagrees that the significant nexus test is suitable. Now, to determine when a wetland is part of adjacent “waters of the United States,” it must be “indistinguishable from waters of the United States.” This occurs only when wetlands have “a continuous surface connection to bodies that are ‘waters of the United States’ in their own right, so that there is no clear demarcation between ‘waters’ and wetlands” (547 U. S., at 742).

If the Project impacts WOTUS, a general (e.g., Nationwide Permit [NWP]) or Individual Permit (IP) will need to be obtained from the USACE Kansas City Regulatory Office.

General permits (e.g., NWPs) are often issued by USACE for categories of activities that are similar in nature and would have only minimal individual or cumulative adverse environmental effects. NWP authorization is intended to be more streamlined than an IP and is issued within 45 days of receipt of a complete Pre-Construction Notification (PCN; required if impacts exceed the NWP disturbance threshold); however, the timelines can shift based on impacts and consultations with agencies.

A PCN would likely be required if impacts from the Project exceed thresholds identified within the NWP or the general and regional conditions are not met. If an NWP is required, the most appropriate NWP will be determined by coordination from a wetland specialist and USACE. USACE will determine whether the activity qualifies under one or more NWPs or if an IP is required.

3.0 METHODS

3.1 Desktop Analysis

Prior to the start of field surveys, a desktop review of the following available resources was conducted to help identify the location of potential wetlands and waterbodies within the Project Area:

- Federal Emergency Management Agency (FEMA) floodplain dataset (FEMA 2021)
- Natural Resources Conservation Service Web Soil Survey (USDA 2021)
- U.S. Department of Agriculture Aerial imagery (USDA 2018)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) dataset (USFWS 2023)
- U.S. Geological Survey (USGS) Topographic Maps (USGS 2022)
- USGS National Hydrography Dataset (NHD; USGS 2023)

3.2 Wetland Delineation

Tetra Tech conducted a site visit on May 30 and 31, 2023, to perform a wetland delineation and preliminary WOTUS investigation/determination within the Project Area.

Wetland and WOTUS determinations were conducted in the field using the standardized method following the USACE's *Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region, Version 2.0* (USACE 2010). Both the USACE's wetland manual and regional supplement incorporate a three-parameter approach using hydrophytic vegetation, hydric soils, and hydrology indicators to identify the presence of wetlands and waterbodies. Field-observed data of representative wetland and upland conditions were transcribed onto the required USACE wetland determination data sheets, provided as Appendix A.

During the field survey, the boundaries of wetlands were identified through visual assessment of hydrophytic vegetation, hydric soils, and hydrology indicators. Linear water features including streams and drainage ditches were identified by the presence of a continuous channel that exhibited evidence of frequent or recurring water flow such, as a defined bed and bank and ordinary high-water mark (OHWM).

The boundaries of delineated wetlands and waterbodies and the locations of paired upland/wetland sample plots were recorded using a GPS receiver with submeter accuracy (Juniper Geode) and tablet interfaced with the ArcGIS Field Maps app. Photographs were taken at each paired sample plot along with representative photos of each delineated aquatic feature and additional points of interest (i.e., culverts, upland points) and are provided with the paired USACE datasheets under Appendix A. Stream identification data forms are provided in Appendix B. Additional photographs of delineated features and the Project Area are included in Appendix C.

The hydrologic regimes for delineated wetlands and WOTUS features were determined in accordance with the *USFWS Classification of Wetlands and Deepwater Habitats of the United States* for freshwater features (Cowardin classification; Cowardin et al. 1979):

Palustrine emergent (PEM) contain emergent, herbaceous (non-woody) plants, which are the tallest life form with at least 30 percent aerial coverage.

3.2.1 Hydrophytic Vegetation

Paired USACE wetland and upland sample plots were established along the delineated wetland boundaries to further delineate the soil characteristics, presence of hydrology indicators, and vegetative communities within the wetlands and adjacent upland areas. Vegetative communities were evaluated based on the presence of dominant plant species and their estimated percent ground cover within five different strata consisting of: tree, shrub, sapling, herbaceous, and woody vine. The hydrophytic vegetation indicator status was based on the National Wetland Plant List classification system (Reed 1988; USACE 2020). In this classification system, plant species are either classified as obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), or obligate upland (UPL; Table 1).

Table 1. Vegetation Indicator Status and their Percent Occurrence within Wetlands

Indicator Status	Percent Occurrence within Wetlands
OBL: Occur almost always under natural conditions in wetlands.	99%
FACW: Usually occur in wetlands but occasionally found in non-wetlands.	67-99%
FAC: Equally likely to occur in wetlands and non-wetlands.	34-66%
FACU: Usually occur in non-wetlands but occasionally found in wetlands.	1-33%
UPL: Occur in wetlands in another region but occur almost always under natural conditions in non-wetlands in the region specified.	1%

Sources: Reed 1988; USACE 2020

3.2.2 Wetland Soils

Soil profiles collected at each sample plot were dug to a depth of approximately 16-20 inches. Soil characteristics, including coloration, presence of redoximorphic features, depth of saturation, and depth to the ground water table were noted.

3.2.3 Wetland Hydrology

Hydrology was analyzed for primary and secondary wetland indicators, including saturation, algal mat, geomorphic position, oxidized root channels associated with living roots, water-stained leaves, and soil cracks. Once dug, the soil pits were left open for a length of time sufficient to allow the apparent high-water table, if present, to stabilize. (USACE 2010).

3.2.4 Other WOTUS Delineation Methods

The physical and biological characteristics of the delineated linear water features (streams or ditches) were evaluated to determine flow regime (ephemeral, intermittent, or perennial). Physical characteristics evaluated included channel morphology, substrate size/type, and base flow conditions. Biological characteristics evaluated include the presence of fish, aquatic macroinvertebrates, and rooted vegetation within the OHWM.

4.0 RESULTS

4.1 Desktop Analysis

The NHD dataset identifies surface water and surface water flow locations as mapped at a 1:24,000 scale (USGS 2023). Similar to the NWI data, these data are inherently inaccurate because of the small scale, and they are therefore used only as a guide for the location of other WOTUS. The results of the desktop analysis of the NHD dataset identified one intermittent stream totaling 0.16 mile (USGS 2023; Table 2; Figure 5).

The NWI dataset identifies wetlands using high-altitude imagery in conjunction with other data sources and field surveys (USFWS 2023). The data are inherently inaccurate and are therefore used only as a guide for the location of likely wetlands. NWI identified one mapped riverine feature with an area of 0.38 acre within the Project Area (Table 2, Figure 5).

Table 2. NWI- and NHD-Mapped Features within the Project Area

Feature Type	Length (miles)	Area (acres)
NHD-Mapped Features		
Intermittent Stream/River	0.16	—
NWI-Mapped Features		
Freshwater Emergent Wetland	—	0.38

Source: USGS 2023 and USFWS 2023

4.1.1 Floodplains

Frequently flooded areas are defined as areas within the 100-year floodplain, which are lands subject to a 1 percent or greater chance of flooding in any given year, as designated by the FEMA Federal Insurance Rate Map (FEMA 2021). Based on desktop research FEMA Flood Insurance Rate Map panel 20169C0400C, effective April 18, 2018, indicates that the entire Project Area to be within Zone X, area of minimal flood hazard (Figure 6).

4.1.2 Soils

Soils mapped by the U.S. Department of Agriculture's Natural Resources Conservation Service Soil Survey Geographic Database within the Project Area are listed in Table 3 and shown in Figure 4. The soils in the Project Area are typical for the region. All 39.4 acres are mapped as non-hydric soils.

Table 3. Soil Types within the Project Area

Map Unit Name	Map Symbol	Percent Slopes	Hydric (Yes/No)	Drainage Class	Acreage
Edalgo clay loam	3350	3-7	No	Well drained	3.6
Crete silt loam	3826	3-7	No	Moderately well drained	32.0
Irwin silty clay loam	4671	1-3	No	Moderately well drained	3.8
Total					39.4

Source: USDA NRCS 2021

4.2 Wetlands and WOTUS Delineation Results

The formal wetland delineation was completed for the Project Area on May 30 and 31, 2023. The site survey confirmed that the Project Area primarily consists of herbaceous grassland. Results of the USACE Antecedent Precipitation Tool (APT) determined the field survey was completed in the wet season under drier than normal conditions (Appendix D). The APT results also indicated that the region was experiencing a severe drought during the time of the site survey. Representative site photographic documentation is provided in Appendix C and photograph locations are provided in Figure 7 for reference.

4.2.1 Wetlands

Results of the formal wetland delineation identified six PEM wetlands totaling approximately 0.179 acre. Table 4 below provides a list of all delineated wetland features, their field-verified Cowardin classifications, and area within the Project Area. Delineated wetland features and USACE wetland and upland sample plot locations are illustrated in Figure 7. Associated USACE wetland determination data forms are provided in Appendix A. Photographs of the USACE sample plots are provided following each wetland determination data form.

Table 4. Delineated Wetlands within the Project Area

Wetland Feature ID	Field-Verified Cowardin Classification	Area (acres)	Potentially Jurisdictional? (Yes/No) ¹
WA	PEM	0.004	No
WB	PEM	0.029	No
WC	PEM	0.036	No
WD	PEM	0.013	No
WE	PEM	0.026	No
WF	PEM	0.071	No
TOTAL		0.179	

¹ Potential jurisdictional status determined in accordance with the 2022 EPA final rule (EPA 2023) and the Supreme Court ruling Sackett v. EPA, 598 U. S. (2023)

PEM wetlands delineated within the Project Area generally consisted of small, isolated depressions within the grasslands. The wetlands were primarily dominated by FAC and FACW herbaceous species including hairy buttercup (*Ranunculus sardous*), curly dock (*Rumex crispus*), troublesome sedge (*Carex molesta*), Muhlenberg's sedge (*C. muhlenbergii*), fox sedge (*C. vulpinoidea*), creeping spike rush (*Eleocharis palustris*) and cheatgrass (*Bromus tectorum*). The wetlands exhibited hydrology indicators including oxidized rhizospheres on living roots, FAC-neutral test, and geomorphic position. Soils consisted of silty/loamy textures that typically met the hydric soil indicator, depleted matrix (F3).

It is Tetra Tech's opinion that all of the wetlands delineated within the Project Area are likely non-jurisdictional WOTUS under the 2022 EPA final rule (EPA 2023) and the Supreme Court ruling Sackett v. EPA, 598 U. S. (2023), because these wetlands consisted of isolated features without direct hydric connections to other wetlands or surface waters and are located over 100 feet away from other potentially jurisdictional features. Review of historical aerials and the desktop information listed in Section 4.1 above determined these areas were not located within NWI-mapped wetlands.

4.2.2 WOTUS

One intermittent stream, totaling approximately 0.16 mile, was delineated within the Project Area (Figure 7). Table 5 below provides a summary of the delineated stream, its classification and its linear extent within the Project Area. WOTUS identification data forms and representative photographs of the stream are presented in Appendix B. Additional photographs of the delineated features and the Project Area are included in Appendix C.

Table 5. Delineated Streams within the Project Area

Feature ID	Flow Regime	Length (linear feet)	Potentially Jurisdictional? (Yes/No) ¹
SA	Intermittent	834	Yes
TOTAL STREAMS		834	

¹ Potential jurisdictional status determined in accordance with the 2022 EPA final rule (EPA 2023)

The intermittent stream (SA) delineated within the Project Area consisted of a natural drainageway that originates off-site to the north of the Project Area. Stream SA was considered to convey water on a seasonal or relatively permanent basis which classified the feature as intermittent stream per the EPA's designation for streams subject to the Clean Water Act (EPA 2022). Stream SA displayed natural sinuosity, suggesting that it is not a man-made drainage; however, this feature was dry throughout its reach within the Project Area. Additional stream morphological features, such as riffle-run-pool sequencing, substrate sorting, grade control, depositional bars or benches, and baseflow were not readily observed during the site survey. However, NWI and NHD both map an intermittent riverine feature in the area of the field delineated stream, and the USGS topographic map displays the feature. Additionally, the USACE APT results indicate that the region in which the Project Area is located is experiencing drier than normal conditions with a drought index of "severe drought." With these considerations, it was determined that Stream SA is likely intermittent during normal hydrologic conditions. The continuity of the channel bed and bank, visual presence of an OHWM, and observations of soil-based evidence of high-water table within the channel also support this determination.

It is Tetra Tech's opinion that the intermittent stream (SA) delineated within the Project Area is likely to be considered jurisdictional WOTUS under the 2022 EPA final rule (EPA 2023). According to the NHD and USGS topographic map, it appears that Stream SA is a tributary to the Smoky Hill River, a large perennial waterway presumed to be a WOTUS. Therefore, Stream SA is considered to be potentially jurisdictional based on its off-site connection to the Smoky Hill River.

5.0 CONCLUSION

Tetra Tech wetland scientists completed a formal wetland delineation within the approximate 39.4-acre Project Area located in Saline County, Kansas. Results of the wetland delineation completed between May 30 and 31, 2023, identified a total of six wetlands totaling 0.179-acre and one intermittent stream totaling 834 linear feet within the Project Area. It is Tetra Tech's opinion that all six of the wetlands (WA, WB, WC, WD, WE, and WF) are likely to be considered non-jurisdictional waters that are not subject to Section 404/401 of the Clean Water Act. It is Tetra Tech's opinion that

intermittent stream (SA) is likely to be considered jurisdictional WOTUS subject to Section 404/401 of the Clean Water Act.

All discharges of dredged or fill material that result in permanent or temporary losses of jurisdictional WOTUS are regulated by USACE under Section 404 of the CWA. The jurisdictional status of the features delineated are the preliminary opinions of the wetland scientist based on professional judgement; only USACE can make jurisdictional determinations for potential wetlands and other WOTUS.

Avoidance of all features requires no coordination with USACE. Impacts to features resulting in less than 0.1-acre loss of WOTUS (including wetlands) would likely be covered under a non-notifying NWP so long as all general and regional conditions are met. Impacts to WOTUS greater than 0.1 acre but less than 0.5 acre would require a PCN be submitted to USACE. If impacts to any of these features are anticipated, Tetra Tech recommends submitting an approved jurisdictional determination to the USACE Kansas City district to gain jurisdictional understanding of the features and any permitting requirements.

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FIGURES



Legend
Project Boundary

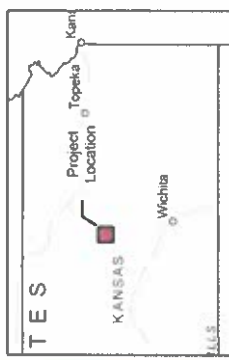


Figure 2
Orbimagery Project Location Map
Mountain Peak Energy Storage Project
Saline County, KS

Prepared For: Mountain Peak Energy Storage LLC

Prepared By:  TETRA TECH
Date: 06/2023

Source: Esri, et. al. 2023; Tetra Tech 2023;
Mountain Peak Energy Storage LLC 2023

Coordinate System: NAD 1983 StatePlane
Kansas North FIPS 1501 (US Feet)

Legend
Project Boundary

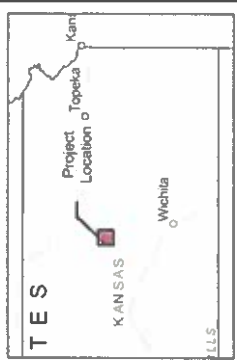


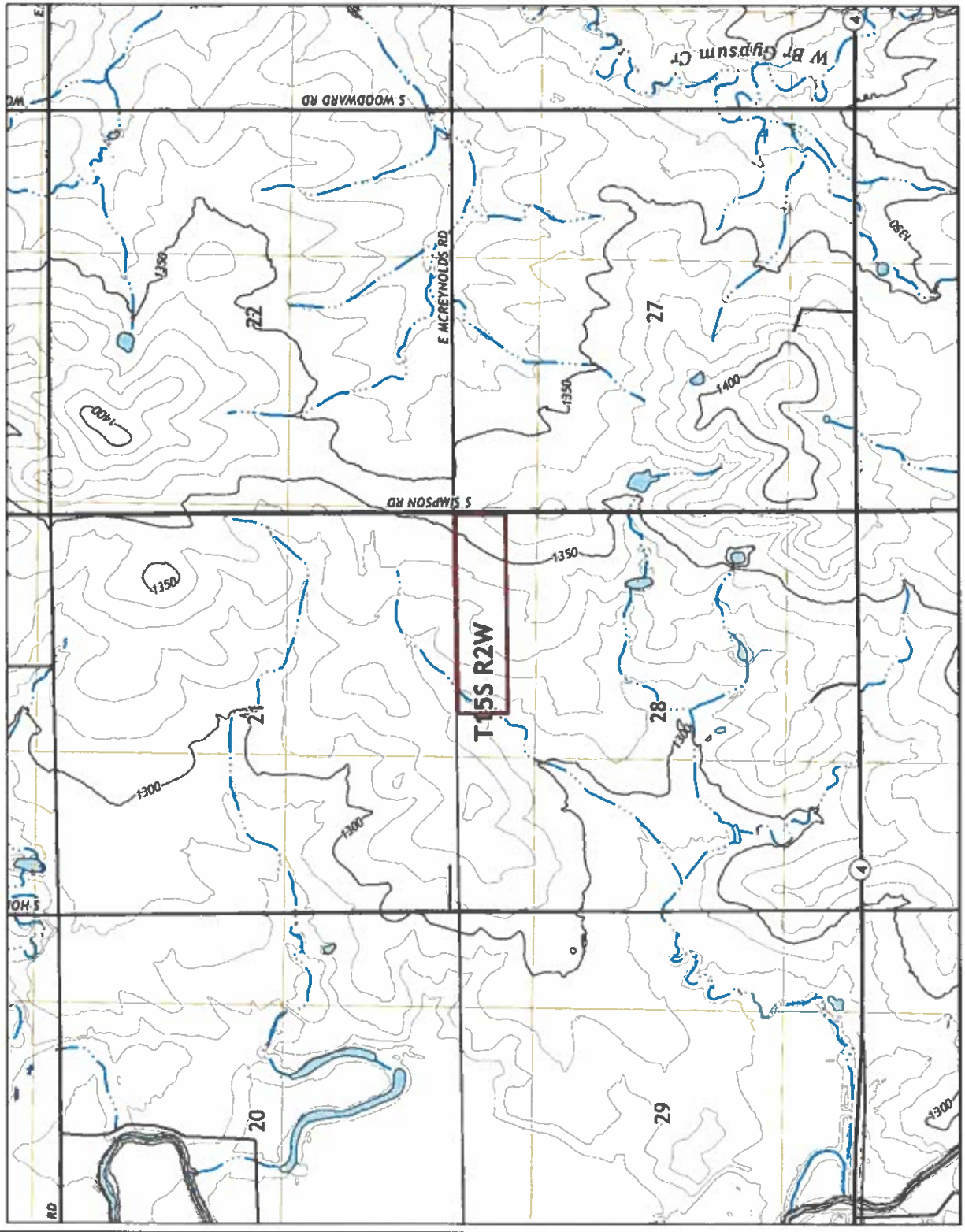
Figure 3
USGS Topographic Map
Mountain Peak Energy Storage Project
Saline County, KS

Prepared For: Mountain Peak Energy Storage LLC

Prepared By: TETRA TECH
Date: 06/2023

Source: Esri, et al. 2023; Tetra Tech 2023;
Mountain Peak Energy Storage LLC 2023;
USGS 2022 Assaria 1:24,000 Quadrangle

Coordinate System: NAD 1983 StatePlane
Kansas North FIPS 1501 (US Feet)



Not for Construction

- Legend**
-  Project Boundary
 - NRCS Soil Unit**
 -  3350: Edaligo clay loam, 3 to 7 percent slopes
 -  3826: Crete silt loam, 3 to 7 percent slopes
 -  4671: Irwin silty clay loam, 1 to 3 percent slopes

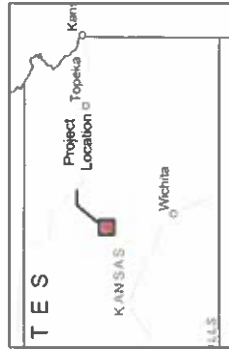


Figure 4
 USDA-NRCS Soils Map
 Mountain Peak Energy Storage Project
 Saline County, KS

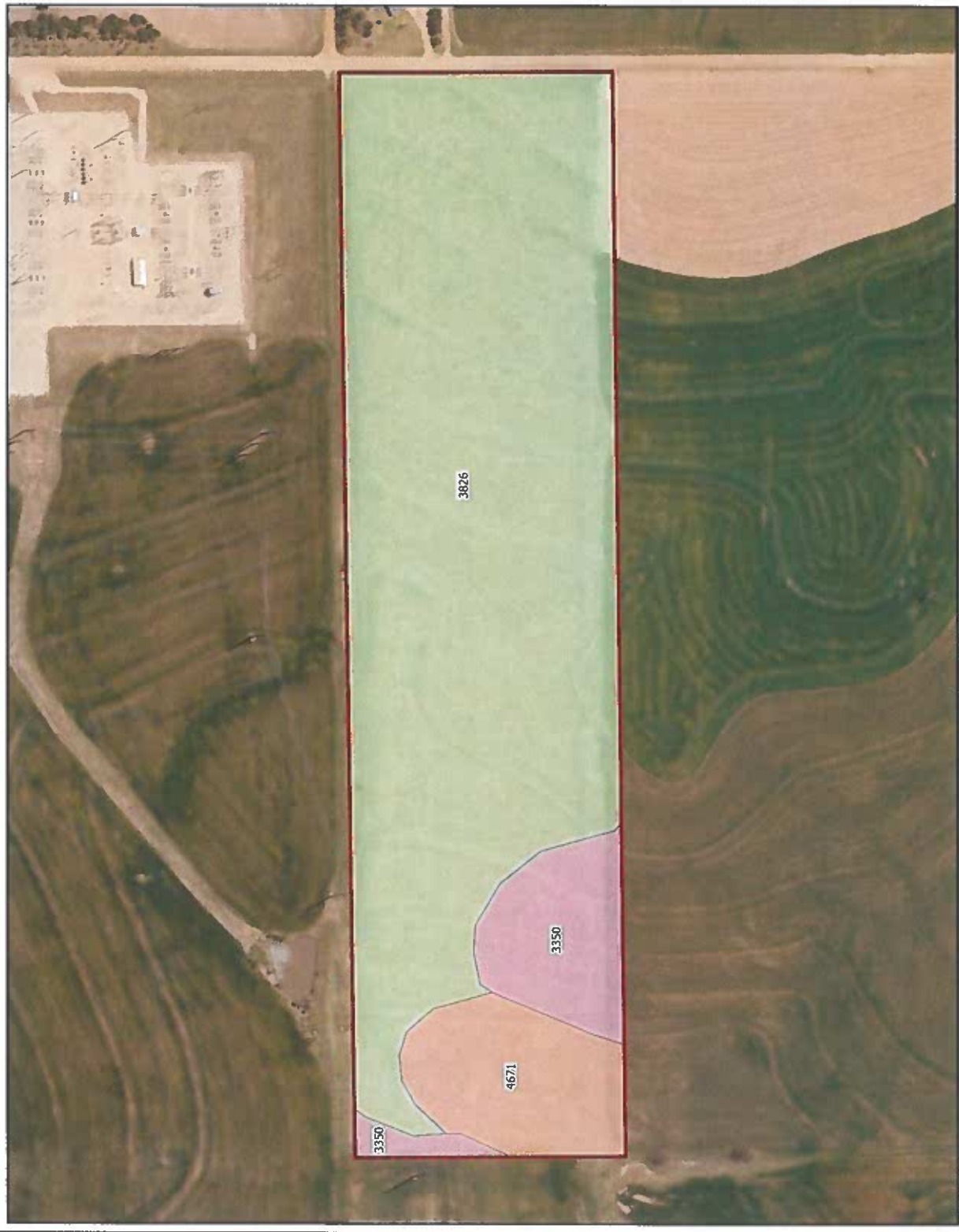
Prepared For: Mountain Peak Energy Storage LLC






Prepared By:  TETRA TECH

Date: 06/2023

Source: Esri, et. al. 2023; NRCS 2023;
 Mountain Peak Energy Storage LLC 2023

Coordinate System: NAD 1983 StatePlane
 Kansas North FIPS 1501 (US Feet)



- Legend**
-  Project Boundary
 -  NHD Watercourse
 -  Stream/River
 -  NMI Wetlands
 -  Riverine

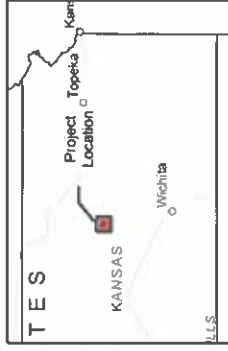


Figure 5
 NHD and NMI Map
 Mountain Peak Energy Storage Project
 Saline County, KS

Prepared For: Mountain Peak Energy Storage LLC

Prepared By:  TETRA TECH Date: 06/2023

Source: Esri, et al. 2023; USGS 2023; USFWS 2019; Mountain Peak Energy Storage LLC 2023

Coordinate System: NAD 1983 StatePlane
 Kansas North FIPS 1501 (US Feet)



- Legend**
- FEMA Flood Zone
 - Zone A, 1% Annual Chance Flood Hazard
 - Zone X, 0.2% Annual Chance Flood Hazard
 - Zone X, Area of Minimal Flood Hazard
 - Project Boundary

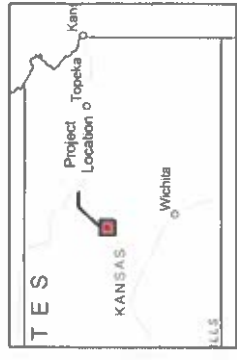


Figure 6
 FEMA Flood Zone Map
 Mountain Peak Energy Storage Project
 Saline County, KS

Prepared For: Mountain Peak Energy Storage LLC

Prepared By: **TETRA TECH**
 Date: 06/2023

Source: Esri, et al. 2023; FEMA 2016; Mountain Peak Energy Storage LLC 2023;
 FEMA FIRM Panel: 2016PC0400C (E1: 4/18/2018)
 Coordinate System: NAD 1983 StatePlane Kansas North FIPS 1501 (US Feet)



- Legend**
- Project Boundary
 - ◆ Photo Locations
 - Delineated Stream
 - Intermittent
 - Delineated Wetland
 - Palustrine Emergent
 - Data Plot
 - ◆ Upland Plot
 - ◆ Wetland Plot
 - ◆ Stream ID Plot

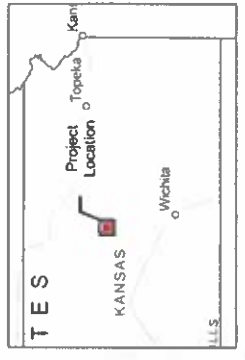


Figure 7
 Field Delineated Watersheds
 Mountain Peak Energy Storage Project
 Saline County, KS

Prepared For: Mountain Peak Energy Storage LLC

Prepared By: TETRA TECH
 Date: 06/2023

Source: Esri, et al. 2023; Tetra Tech 2023;
 Mountain Peak Energy Storage LLC 2023

Coordinate System: NAD 1983 StatePlane
 Kansas North FIPS 1501 (US Feet)

APPENDIX A

WETLAND/UPLAND USACE DATA FORMS

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Great Plains Region
 See ERDC/EL TR-10-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Mountain Peak Energy Storage City/County: Assaria / Saline Sampling Date: 05/31/2023
 Applicant/Owner: Mountain Peak Energy Storage LLC State: KS Sampling Point: WA-UDP
 Investigator(s): J. Golladay Section, Township, Range: T15S R2W
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): concave Slope (%): 3
 Subregion (LRR): LRR H, MLRA 74 Lat: 38.724146 Long: -97.539888 Datum: NAD83
 Soil Map Unit Name: 3826: Crete silt loam, 3 to 7 percent slopes NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

USACE Antecedent Precipitation Tool results indicate that the region in which the Project Site is located is experiencing drier than normal conditions during a severe drought.

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
1.					
2.					
3.					
4.					
=Total Cover					Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 6 x 2 = 12 FAC species 0 x 3 = 0 FACU species 16 x 4 = 64 UPL species 17 x 5 = 85 Column Totals: 39 (A) 161 (B) Prevalence Index = B/A = 4.13
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
Herb Stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.	<u>Andropogon virginicus</u>	<u>8</u>	<u>Yes</u>	<u>FACU</u>	
2.	<u>Carex molesta</u>	<u>6</u>	<u>Yes</u>	<u>FACW</u>	
3.	<u>Bromus tectorum</u>	<u>5</u>	<u>No</u>	<u>UPL</u>	
4.	<u>Helianthus maximiliani</u>	<u>3</u>	<u>No</u>	<u>FACU</u>	
5.	<u>Symphotrichum pilosum</u>	<u>3</u>	<u>No</u>	<u>FACU</u>	
6.	<u>Carex muehlenbergii</u>	<u>2</u>	<u>No</u>	<u>UPL</u>	
7.	<u>Galium aparine</u>	<u>2</u>	<u>No</u>	<u>FACU</u>	
8.	<u>Solidago missouriensis</u>	<u>2</u>	<u>No</u>	<u>UPL</u>	
9.	<u>Convolvulus arvensis</u>	<u>8</u>	<u>Yes</u>	<u>UPL</u>	
10.					
39 =Total Cover					
Woody Vine Stratum	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1.					
2.					
=Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

SOIL

Sampling Point: WA-UDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3/2	98	10YR 3/4	2	C	M	Loamy/Clayey	Distinct redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	wetland hydrology must be present,
		unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> (where tilled)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Occus in small depression withing gently sloping landscape.

Description:

View of Upland Data Point
WA-UDP vegetative
community.

Orientation:

Facing west.



Description:

View of Upland Data Point
WA-UDP soil.



U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Great Plains Region
 See ERDC/EL TR-10-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Mountain Peak Energy Storage City/County: Assaria / Saline Sampling Date: 05/31/2023
 Applicant/Owner: Mountain Peak Energy Storage LLC State: KS Sampling Point: WA-WDP
 Investigator(s): J. Golladay Section, Township, Range: T15S R2W
 Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): LRR H, MLRA 74 Lat: 38.72401 Long: -97.540003 Datum: NAD83
 Soil Map Unit Name: 3826: Crete silt loam, 3 to 7 percent slopes NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:
 USACE Antecedent Precipitation Tool results indicate that the region in which the Project Site is located is experiencing drier than normal conditions during a severe drought.

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1.					
2.					
3.					
4.					
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>2</u> x 3 = <u>6</u> FACU species <u>12</u> x 4 = <u>48</u> UPL species <u>15</u> x 5 = <u>75</u> Column Totals: <u>69</u> (A) <u>209</u> (B) Prevalence Index = B/A = <u>3.03</u>
1.					
2.					
3.					
4.					
=Total Cover					
Herb Stratum	(Plot size: <u>5</u>)				
1.	<u>Andropogon virginicus</u>	<u>4</u>	<u>No</u>	<u>FACU</u>	
2.	<u>Carex molesta</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>	
3.	<u>Bromus tectorum</u>	<u>2</u>	<u>No</u>	<u>UPL</u>	
4.	<u>Helianthus maximiliani</u>	<u>3</u>	<u>No</u>	<u>FACU</u>	
5.	<u>Festuca arundinacea</u>	<u>3</u>	<u>No</u>	<u>FACU</u>	
6.	<u>Carex muehlenbergii</u>	<u>5</u>	<u>No</u>	<u>UPL</u>	
7.	<u>Galium aparine</u>	<u>2</u>	<u>No</u>	<u>FACU</u>	
8.	<u>Solidago missouriensis</u>	<u>3</u>	<u>No</u>	<u>UPL</u>	
9.	<u>Convolvulus arvensis</u>	<u>5</u>	<u>No</u>	<u>UPL</u>	
10.	<u>Apocynum cannabinum</u>	<u>2</u>	<u>No</u>	<u>FAC</u>	
=Total Cover					
Woody Vine Stratum	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					
% Bare Ground in Herb Stratum _____					

Remarks:

SOIL

Sampling Point: WA-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 3/1	95	10YR 3/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input checked="" type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)
	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
	<input type="checkbox"/> Dark Surface (S7) (LRR G)
	<input type="checkbox"/> High Plains Depressions (F16)
	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
	<input type="checkbox"/> Reduced Vertic (F18)
	<input type="checkbox"/> Red Parent Material (F21)
	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input checked="" type="checkbox"/> Geomorphic Position (D2)
	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? Yes No Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Occur in small depression withing gently sloping landscape.

Description:

View of Wetland Data Point WA-WDP vegetative community.

Orientation:

Facing south.



Description:

View of Wetland Data Point WA-WDP soil.



U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Great Plains Region
 See ERDC/EL TR-10-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Mountain Peak Energy Storage City/County: Assaria / Saline Sampling Date: 05/31/2023
 Applicant/Owner: Mountain Peak Energy Storage LLC State: KS Sampling Point: WE-UJP
 Investigator(s): J. Golladay Section, Township, Range: T15S R2W
 Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope (%): 4
 Subregion (LRR): LRR H, MLRA 74 Lat: 38.725057 Long: -97.543896 Datum: NAD83
 Soil Map Unit Name: 3826: Crete silt loam, 3 to 7 percent slopes NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:
 USACE Antecedent Precipitation Tool results indicate that the region in which the Project Site is located is experiencing drier than normal conditions during a severe drought.

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
1.					
2.					
3.					
4.					=Total Cover
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>2</u> x 3 = <u>6</u> FACU species <u>28</u> x 4 = <u>112</u> UPL species <u>30</u> x 5 = <u>150</u> Column Totals: <u>60</u> (A) <u>268</u> (B) Prevalence Index = B/A = <u>4.47</u>
1.					
2.					
3.					
4.					
5.					=Total Cover
Herb Stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.	<u><i>Bromus tectorum</i></u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>	
2.	<u><i>Schizachyrium scoparium</i></u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
3.	<u><i>Solidago missouriensis</i></u>	<u>10</u>	<u>No</u>	<u>UPL</u>	
4.	<u><i>Galium aparine</i></u>	<u>4</u>	<u>No</u>	<u>FACU</u>	
5.	<u><i>Erigeron annuus</i></u>	<u>2</u>	<u>No</u>	<u>FACU</u>	
6.	<u><i>Ranunculus sardous</i></u>	<u>2</u>	<u>No</u>	<u>FAC</u>	
7.	<u><i>Glycyrrhiza lepidota</i></u>	<u>2</u>	<u>No</u>	<u>FACU</u>	
8.					
9.					
10.					
		<u>60</u>			=Total Cover
Woody Vine Stratum	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1.					
2.					
					=Total Cover
% Bare Ground in Herb Stratum <u> </u>					

Remarks:

SOIL

Sampling Point: WE-UDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 4/1	100					Loamy/Clayey	
1-12	10YR 3/1	80					Loamy/Clayey	
12-16	10YR 3/1	97	10YR 5/2	3	D	M	Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Very Shallow Dark Surface (F22) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | <input type="checkbox"/> (MLRA 72 & 73 of LRR H) | |

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
Second matrix color for depth 1-12": 10YR 3/2 20%

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Secondary Indicators (minimum of two required)

- | | | |
|--|---|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> (where tilled) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> (where not tilled) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | | <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
Water Table Present? Yes _____ No _____ Depth (inches): _____
Saturation Present? Yes _____ No _____ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Description:

View of Upland Data Point
WE-UDP vegetative
community.

Orientation:

Facing northeast.



Description:

View of Upland Data Point
WE-UDP soil.



U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Great Plains Region
 See ERDC/EL TR-10-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Mountain Peak Energy Storage City/County: Assaria / Saline Sampling Date: 05/31/2023
 Applicant/Owner: Mountain Peak Energy Storage LLC State: KS Sampling Point: WE-WDP
 Investigator(s): J. Golladay Section, Township, Range: T15S R2W
 Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): LRR H, MLRA 74 Lat: 38.72511 Long: -97.543874 Datum: NAD83
 Soil Map Unit Name: 3826: Crete silt loam, 3 to 7 percent slopes NW1 classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydic Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---	--	---

Remarks:
 USACE Antecedent Precipitation Tool results indicate that the region in which the Project Site is located is experiencing drier than normal conditions during a severe drought.

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1.					
2.					
3.					
4.					
=Total Cover					Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>6</u> x 2 = <u>12</u> FAC species <u>13</u> x 3 = <u>39</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>44</u> (A) <u>91</u> (B) Prevalence Index = B/A = <u>2.07</u>
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
Herb Stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.	<u><i>Eleocharis palustris</i></u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>	
2.	<u><i>Ranunculus sardous</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
3.	<u><i>Galium aparine</i></u>	<u>4</u>	<u>No</u>	<u>FACU</u>	
4.	<u><i>Carex vulpinoidea</i></u>	<u>4</u>	<u>No</u>	<u>FACW</u>	
5.	<u><i>Apocynum cannabinum</i></u>	<u>3</u>	<u>No</u>	<u>FAC</u>	
6.	<u><i>Conium maculatum</i></u>	<u>2</u>	<u>No</u>	<u>FACW</u>	
7.	<u><i>Helianthus maximiliani</i></u>	<u>1</u>	<u>No</u>	<u>FACU</u>	
8.					
9.					
10.					
44 =Total Cover					
Woody Vine Stratum	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					
% Bare Ground in Herb Stratum _____					

Remarks:

SOIL

Sampling Point: WE-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3/2	100					Loamy/Clayey	
3-10	10YR 3/1	96	10YR 6/2	10	D	M	Loamy/Clayey	
10-16	10YR 3/1	96	10YR 6/2	2	D	M	Loamy/Clayey	
			10YR 4/6	2	C	M		Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> (where tilled)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____
Water Table Present? Yes _____ No _____ Depth (inches): _____
Saturation Present? Yes _____ No _____ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Occurs in small depression withing gently sloping landscape.

Description:

View of Wetland Data Point WE-WDP vegetative community.

Orientation:

Facing northeast.



Description:

View of Wetland Data Point WE-WDP soil.



APPENDIX B

STREAM IDENTIFICATION DATA FORMS

STREAM ID SA (DP1)		STREAM NAME Unnamed Tributary to Smoky Hill River	
CLIENT Mountain Peak Energy Storage LLC		PROJECT NAME Mountain Peak Energy Storage	
LAT 38.72531	LONG -97.54751	DATE 05/31/2023	COUNTY Saline, County, Kansas
INVESTIGATORS J. Golladay			
WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>3</u> ft Top of Bank Height: LB <u>0.5</u> ft RB <u>0.5</u> ft Water Depth: <u>0</u> in Water Width: <u>0</u> ft Ordinary High Water Mark (Width): <u>3</u> ft Ordinary High Water Mark (Height): <u>0.5</u> in Flow Direction: <u>South</u>	Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft) Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Within Roadside Ditch <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Culvert Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Culvert Material: <u>Smooth Plastic</u> Culvert Size: <u>8</u> in
------------------	---	--

FLOW CHARACTERISTICS	Water Present <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types (Only enter if water present) Riffle % Run 100 % Pool % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Other _____
----------------------	---	--

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	5			
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	85			
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> ROW <input type="checkbox"/> Other: _____	Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <15ft
	Canopy Cover <input type="checkbox"/> Open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded	

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Stream SA displayed natural sinuosity, suggesting that it is not a man-made drainage; however, the feature was dry throughout its reach within the Project Area. Additional stream morphological features, such as riffle-run-pool sequencing, substrate sorting, grade control, depositional bars or benches, and baseflow were not readily observed during the site survey. However, NWI and NHD both map an intermittent riverine feature in the area of the field delineated stream, and the USGS topographic map displays the feature as a blue-line stream. Additionally, the USACE APT results indicate that the region in which the Project Area is located is experiencing drier than normal conditions with a drought index of "severe drought". With these considerations, it was determined that Stream SA is likely intermittent during normal conditions. Continuity of the channel bed and bank, visual presence of an ordinary high-water mark (OHWM), and observations of soil-based evidence of high-water table within the channel, also support this determination.

Description:

View of Stream
Identification Data Point
SA-DP1

Orientation:

View upstream (North).



Description:

View of Stream
Identification Data Point
SA-DP1

Orientation:

View downstream (South).



STREAM ID SA (DP2)		STREAM NAME Unnamed Tributary to Smoky Hill River	
CLIENT Mountain Peak Energy Storage LLC		PROJECT NAME Mountain Peak Energy Storage	
LAT 38.723761	LONG -97.54832	DATE 05/31/2023	COUNTY Saline, County, Kansas
INVESTIGATORS J. Golladay			
WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>3</u> ft Top of Bank Height: LB <u>1</u> ft RB <u>1</u> ft Water Depth: <u>0</u> in Water Width: <u>0</u> ft Ordinary High Water Mark (Width): <u>3</u> ft Ordinary High Water Mark (Height): <u>12</u> in Flow Direction: <u>Southwest</u>	Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe <small>(0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)</small> Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Within Roadside Ditch <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Culvert Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
------------------	--	---

FLOW CHARACTERISTICS	Water Present <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types (Only enter if water present) Riffle % Run 100 % Pool % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Other _____
----------------------	---	--

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	5			
Sand	0.06-2mm (gritty)	15	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	80			
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> ROW <input type="checkbox"/> Other: _____	Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <15ft
	Canopy Cover <input type="checkbox"/> Open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded	

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Stream SA displayed natural sinuosity, suggesting that it is not a man-made drainage; however, the feature was dry throughout its reach within the Project Area. Additional stream morphological features, such as riffle-run-pool sequencing, substrate sorting, grade control, depositional bars or benches, and baseflow were not readily observed during the site survey. However, NWI and NHD both map an intermittent riverine feature in the area of the field delineated stream, and the USGS topographic map displays the feature as a blue-line stream. Additionally, the USACE APT results indicate that the region in which the Project Area is located is experiencing drier than normal conditions with a drought index of "severe drought". With these considerations, it was determined that Stream SA is likely intermittent during normal conditions. Continuity of the channel bed and bank, visual presence of an ordinary high-water mark (OHWM), and observations of soil-based evidence of high-water table within the channel, also support this determination.

Description:

View of Stream
Identification Data Point
SA-DP2

Orientation:

View upstream
(Northeast).



Description:

View of Stream
Identification Data Point
SA-DP2

Orientation:

View downstream
(Southwest).



APPENDIX C SITE PHOTOGRAPHS

**Photographic Documentation
Mountain Peak Energy Storage Project
Saline County, Kansas
May 30-31, 2023**

Photo: 1

Description:

Overview of wetland WF. This is a typical view of the vegetation in the delineated depressional wetlands within the Project Area.

Orientation:

Facing north.



Photo: 2

Description:

View of unknown, collapsed concrete feature along north-central boundary of the Project Area. Potential historic cistern.

Orientation:

Facing northwest.



**Photographic Documentation
Mountain Peak Energy Storage Project
Saline County, Kansas
May 30-31, 2023**

Photo: 3

Description:

View of pipe feeding Stream SA just outside the northwest corner of the Project Area. Pipe likely connects to a small pond on the adjacent parcel to the north.

Orientation:

Facing north.



Photo: 4

Description:

Overview of intermittent stream SA. Stream SA flows south and west and exits the Project Area in the southwest corner of the site.

Orientation:

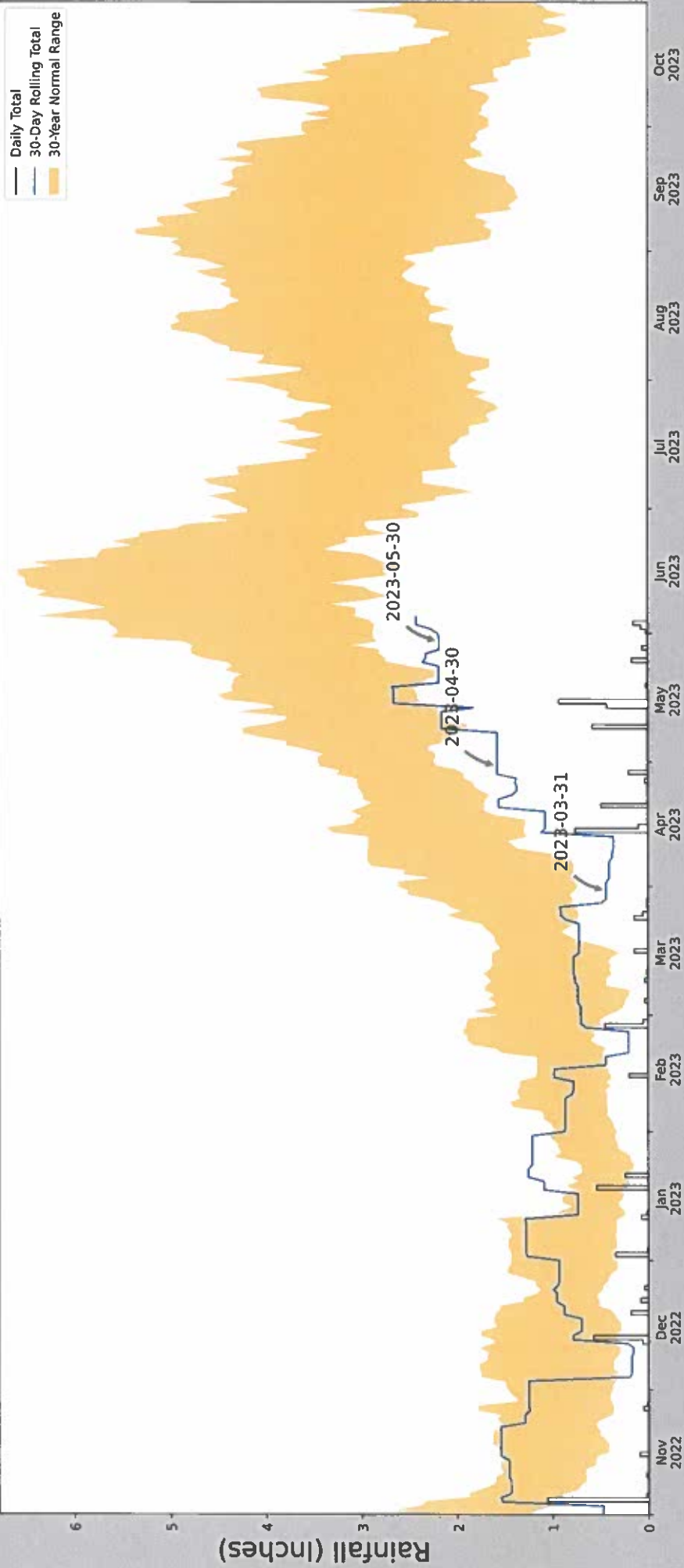
Facing south.



APPENDIX D

ANTECEDENT PRECIPITATION TOOL

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-05-30	2.843307	4.85748	2.185039	Dry	1	3	3
2023-04-30	2.217717	3.432677	1.57874	Dry	1	2	2
2023-03-31	0.765748	2.502362	0.433071	Dry	1	1	1
Result							Drier than Normal - 6

Coordinates	38.724562, -97.543918
Observation Date	2023-05-30
Elevation (ft)	1330.407
Drought Index (PDSI)	Severe drought (2023-04)
WebWIMP H ₂ O Balance	Wet Season

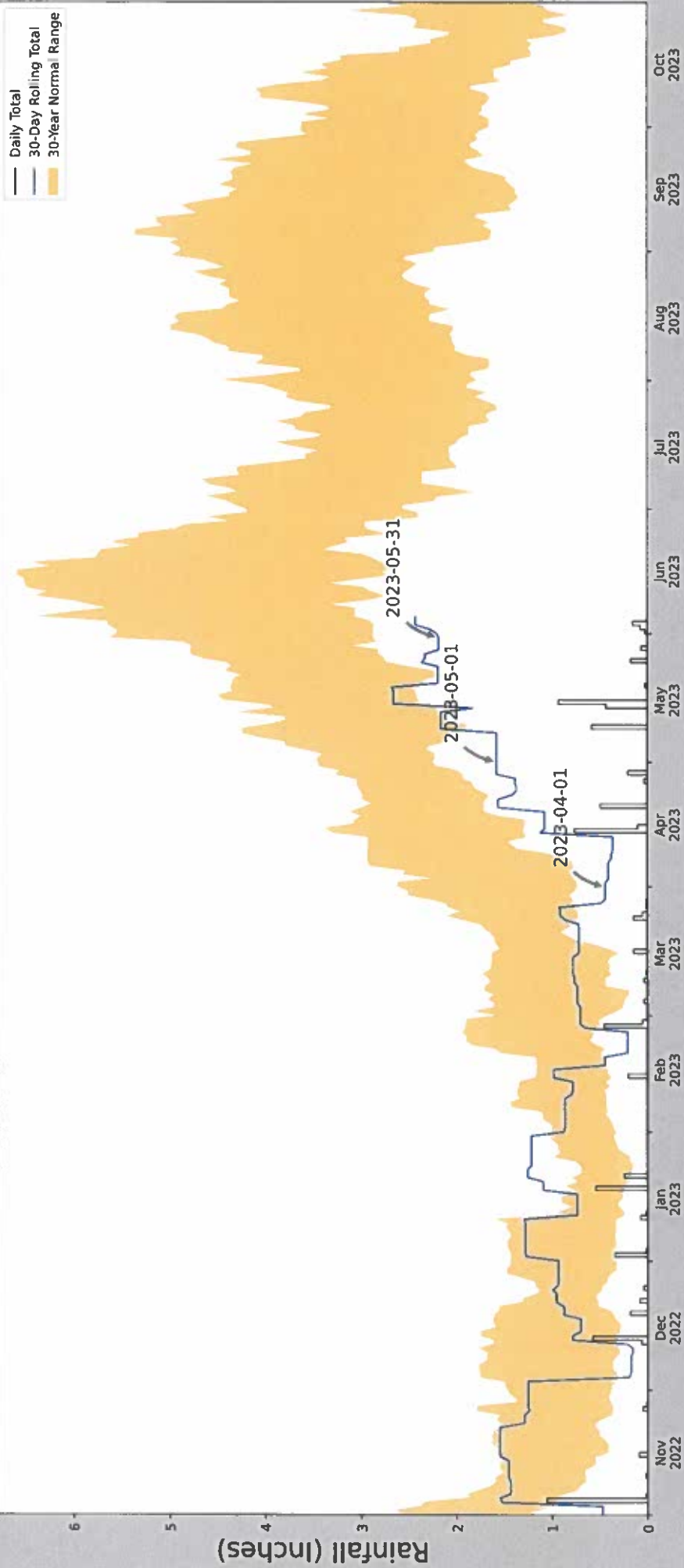
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SALINA MUNI AP	38.78, -97.6444	1263.123	6.632	67.284	3.431	10465	90
SALINA 0.7 SSW	38.8059, -97.6207	1240.158	2.198	22.965	1.04	4	0
SMOLAN 1NE	38.7431, -97.6678	1279.856	2.844	16.733	1.327	1	0
BROOKVILLE	38.7711, -97.8564	1370.079	11.436	106.956	6.369	849	0
LINDSBORG 3E	38.5867, -97.6083	1318.898	13.497	55.775	6.826	34	0



Figure and tables made by the
Antecedent Precipitation Tool
 Version 1.0

Written by Jason Deters
 U.S. Army Corps of Engineers

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



30 Days Ending	30 ^m %ile (in)	70 ^m %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-05-31	2.877165	5.620473	2.185039	Dry	1	3	3
2023-05-01	2.253937	3.448032	1.57874	Dry	1	2	2
2023-04-01	0.737795	2.609449	0.433071	Dry	1	1	1
Result							Drier than Normal - 6

Coordinates	38.724562, -97.543918
Observation Date	2023-05-31
Elevation (ft)	1330.407
Drought Index (PDSI)	Severe drought (2023-04)
WebWIMP H ₂ O Balance	Wet Season

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SALINA MUNI AP	38.78, -97.6444	1263.123	6.632	67.284	3.431	10465	90
SALINA 0.7 SSW	38.8059, -97.6207	1240.158	2.198	22.965	1.04	4	0
SMOLAN 1NE	38.7431, -97.6678	1279.856	2.844	16.733	1.327	1	0
BROOKVILLE	38.7711, -97.8564	1370.079	11.436	106.956	6.369	849	0
LINDSBORG 3E	38.5867, -97.6083	1318.898	13.497	55.775	6.826	34	0



Figure and tables made by the
Antecedent Precipitation Tool
 Version 1.0

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