Appendix I

Wetland Resources



Main (952) 937-5150 (952) 937-5822 Fax

westwoodps.com (888) 937-5150

MEMORANDUM

Date: June 12, 2024

Re: **Wetland Delineation Report**

Midwater BESS, Shell Rock Township, Freeborn County

Westwood File 0046089.00

To: Rachel Wehner, Freeborn County **USACE PM for Freeborn County**

Mary Matze, Midwater BESS, LLC Cc:

From: Malia Stone

> Please find enclosed the Joint Application form for Activities Affecting Water Resources in Minnesota and the Wetland Delineation Report for Midwater BESS, which is located in Shell Rock Township, Freeborn County, Minnesota. With this submittal the Applicant is requesting approval of delineated wetland boundaries.

Please review the enclosed report and feel free to contact me with questions at (507) 412-3292.

Joint Application Form for Activities Affecting Water Resources in Minnesota

This joint application form is the accepted means for initiating review of proposals that may affect a water resource (wetland, tributary, lake, etc.) in the State of Minnesota under state and federal regulatory programs. Applicants for Minnesota Department of Natural Resources (DNR) Public Waters permits **MUST** use the MPARS online permitting system for submitting applications to the DNR. Applicants can use the information entered into MPARS to substitute for completing parts of this joint application form (see the paragraph on MPARS at the end of the joint application form instructions for additional information). This form is only applicable to the water resource aspects of proposed projects under state and federal regulatory programs; other local applications and approvals may be required. Depending on the nature of the project and the location and type of water resources impacted, multiple authorizations may be required as different regulatory programs have different types of jurisdiction over different types of resources.

Regulatory Review Structure

Federal

The St. Paul District of the U.S. Army Corps of Engineers (Corps) is the federal agency that regulates discharges of dredged or fill material into waters of the United States (wetlands, tributaries, lakes, etc.) under Section 404 of the Clean Water Act (CWA) and regulates work in navigable waters under Section 10 of the Rivers and Harbors Act. Applications are assigned to Corps project managers who are responsible for implementing the Corps regulatory program within a particular geographic area.

<u>State</u>

There are three state regulatory programs that regulate activities affecting water resources. The Wetland Conservation Act (WCA) regulates most activities affecting wetlands. It is administered by local government units (LGUs) which can be counties, townships, cities, watershed districts, watershed management organizations or state agencies (on state-owned land). The Minnesota DNR Division of Ecological and Water Resources issues permits for work in specially-designated public waters via the Public Waters Work Permit Program (DNR Public Waters Permits). The Minnesota Pollution Control Agency (MPCA) under Section 401 of the Clean Water Act certifies that discharges of dredged or fill material authorized by a federal permit or license comply with state water quality standards. One or more of these regulatory programs may be applicable to any one project.

Required Information

Prior to submitting an application, applicants are <u>strongly encouraged</u> to seek input from the Corps Project Manager and LGU staff to identify regulatory issues and required application materials for their proposed project. Project proponents can request a preapplication consultation with the Corps and LGU to discuss their proposed project by providing the information required in Sections 1 through 5 of this joint application form to facilitate a meaningful discussion about their project. Many LGUs provide a venue (such as regularly scheduled technical evaluation panel meetings) for potential applicants to discuss their projects with multiple agencies prior to submitting an application. Contact information is provided below.

The following bullets outline the information generally required for several common types of determinations/authorizations.

- For delineation approvals and/or jurisdictional determinations, submit Parts 1, 2 and 5, and Attachment A.
- For activities involving CWA/WCA exemptions, WCA no-loss determinations, and activities not requiring mitigation, submit Parts 1 through 5, and Attachment B.
- For activities requiring compensatory mitigation/replacement plan, submit Parts 1 thru 5, and Attachments C and D.
- For local road authority activities that qualify for the state's local road wetland replacement program, submit Parts 1 through 5, and Attachments C, D (if applicable), and E to both the Corps and the LGU.

Submission Instructions

Send the completed joint application form and all required attachments to:

U.S Army Corps of Engineers. Applications may be sent directly to the appropriate Corps Office. For a current listing of areas of responsibilities and contact information, visit the St. Paul District's website at:

http://www.mvp.usace.army.mil/Missions/Regulatory.aspx and select "Minnesota" from the contact Information box. Alternatively, applications may be sent directly to the St. Paul District Headquarters and the Corps will forward them to the appropriate field office.

Section 401 Water Quality Certification: Applicants do not need to submit the joint application form to the MPCA unless specifically requested. The MPCA will request a copy of the completed joint application form directly from an applicant when they determine an individual 401 water quality certification is required for a proposed project.

Wetland Conservation Act Local Government Unit: Send to the appropriate Local Government Unit. If necessary, contact your county Soil and Water Conservation District (SWCD) office or visit the Board of Water and Soil Resources (BWSR) web site (www.bwsr.state.mn.us) to determine the appropriate LGU.

DNR Public Waters Permitting: In 2014 the DNR will begin using the Minnesota DNR Permitting and Reporting System (MPARS) for submission of Public Waters permit applications (https://webapps11.dnr.state.mn.us/mpars/public/authentication/login). Applicants for Public Waters permits MUST use the MPARS online permitting system for submitting applications to the DNR. To avoid duplication and to streamline the application process among the various resource agencies, applicants can use the information entered into MPARS to substitute for completing parts of this joint application form. The MPARS print/save function will provide the applicant with a copy of the Public Waters permit application which, at a minimum, will satisfy Parts one and two of this joint application. For certain types of activities, the MPARS application may also provide all of the necessary information required under Parts three and four of the joint application. However, it is the responsibility of the Applicant to make sure that the joint application contains all of the required information, including identification of all aquatic resources impacted by the project (see Part four of the joint application). After confirming that the MPARS application contains all of the required information in Parts one and two the Applicant may attach a copy to the joint application and fill in any missing information in the remainder of the joint application.

Project Name and/or Number: Midwater BESS

PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

Applicant/Landowner Name: Mary Matze, Midwater BESS, LLC.

Mailing Address: 2916 N Miami Ave, Suite 830

Miami, FL 33127

Phone: 786-321-9379

E-mail Address: mmatze@spearmintenergy.com

Authorized Contact (do not complete if same as above):

Mailing Address:

Phone:

E-mail Address:

Agent Name: Malia Stone

Mailing Address: 12701 Whitewater Drive, Suite 300

Minnetonka, MN 55343

Phone: (507) 412-3292

E-mail Address: malia.stone@westwoodps.com

PART TWO: Site Location Information

County: Freeborn City/Township: Shell Rock Township

Parcel ID and/or Address: 020070041, 020080070, 020170012

Legal Description (Section, Township, Range): Sections 08 and 17, T101N, R20W

Lat/Long (decimal degrees): 43.5558353, -93.2630457

Attach a map showing the location of the site in relation to local streets, roads, highways.

Approximate size of site (acres) or if a linear project, length (feet): ~104.4 acres

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/Regulatory/Docs/engform 4345 2012oct.pdf

PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted *prior to* this application then describe that here and provide the Corps of Engineers project number.

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

Project Name and/or Number: Midwater BESS

PART FOUR: Aquatic Resource Impact¹ Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	Resource Type	drain, or remove	Impact	Size of Impact ²	Overall Size of Aquatic Resource ³	Existing Plant Community Type(s) in Impact Area ⁴	County, Major Watershed #, and Bank Service Area # of Impact Area ⁵

If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

PART FIVE: Applicant Signature

Check here if you are requesting a <u>pre-application</u> consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.							
By signature below, I attest that the information in this application is complet authority to undertake the work described herein.	te and accurate. I further attest that I possess the						
Signature: Arthrew Woranch [Jun 6, 2024 12:18 MDT]	June 6, 2024 Date:						
I hereby authorize Westwood Professional Services to act on my behalf as r furnish, upon request, supplemental information in							

Minnesota Interagency Water Resource Application Form February 2014

²Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).

³This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".

^{*}Use Wetland Plants and Plant Community Types of Minnesota and Wisconsin 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.

⁵Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

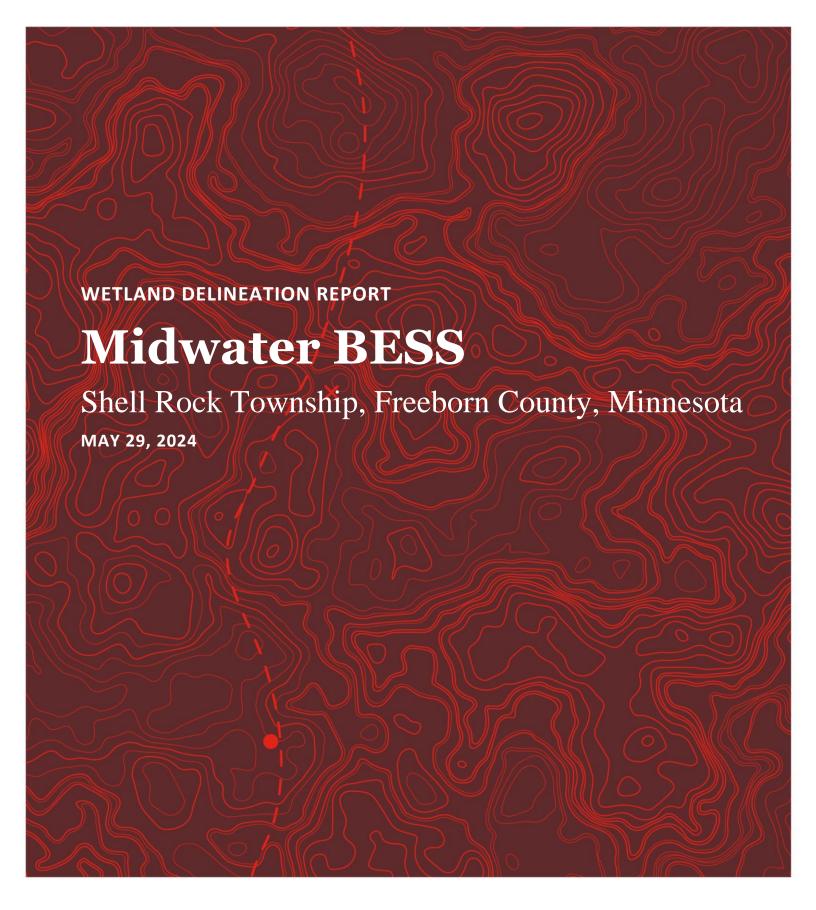
¹ The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

Project Name and/or Number: Midwater BESS

Attachment A Request for Delineation Review, Wetland Type Determination, or **Jurisdictional Determination**

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District

(Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):
Wetland Type Confirmation
Delineation Concurrence. Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).
Preliminary Jurisdictional Determination. A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.
Approved Jurisdictional Determination. An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.
In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the <i>Guidelines for Submitting Wetland Delineations in Minnesota</i> (2013). http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx



PREPARED FOR:

Midwater BESS, LLC 2916 N Miami Ave, Suite 830 Miami, FL 33127 **PREPARED BY:**



Wetland Delineation Report

Midwater BESS

Shell Rock Township, Freeborn County, Minnesota

Prepared for:

Midwater BESS, LLC 2916 N Miami Ave, Suite 830 Miami, FL 33127

Prepared by:

Westwood Professional Services 12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343 (952) 937-5150

Project Number: Roo46089.00

Date: 5/29/2024

Table of Contents

1.0	PURPOSE	1
2.0	SITE LOCATION AND DESCRIPTION	1
3.0	FIELD DELINEATION METHODOLOGY	1
	3.1 Mapping	1
	3.2 Offsite Hydrology Review	1
	3.3 Wetland Delineation Methodology	2
	3.4 Ordinary High Water Mark Determinations	
4.0	RESULTS	
•	4.1 Mapping	_
	4.2 Antecedent Precipitation	4
	4.3 Offsite Hydrology Review	
	4.4 On-Site Wetland and Watercourse Delineation Results	
5.0	CONCLUSIONS	
6.0	CERTIFICATION	•
7 .0	LITERATURE CITED	_
TAE	BLES & FIGURES	
Table	e 4.1: Soil Summary	.3
Figur	e 4.2: Antecedent Precipitation Tool V1.0 Graph	.4
Table	e 4.4: Delineated Wetland Summary Table	·5

EXHIBITS

Exhibit 1: Project Area & USGS Topography

Exhibit 2: Water Resources

Exhibit 3: Soils

Exhibit 4: Suspect Areas & LiDAR Contours

Exhibit 5: Field Delineated Features

APPENDICES

Appendix A: Wetland Data Forms & Photographs Appendix B: Non-Wetland Data Forms & Photographs

Appendix C: Watercourse Data Forms & Photographs

Appendix D: Offsite Hydrology Review

1.0 PURPOSE

This report with the attached exhibits and appendices constitutes the wetland delineation report for the Midwater BESS Project ("Project Area" or "Site"), an approximately 104.4-acre area in Shell Rock Township, Freeborn County, Minnesota (PIN #s 020070041, 020080070, 020170012). Freeborn County is the Local Governmental Unit (LGU) that administers the Minnesota Wetland Conservation Act (WCA) in this area. This report provides the required documentation for wetland boundary determinations in conformance with the United States Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory, Waterways Experiment Station, 1987) and the Regional Supplement to the USACE Wetland Delineation Manual: Midwest Region (U.S. Army Corps of Engineers, 2010). The Joint Application Form for Activities Affecting Water Resources in Minnesota is included with the cover memo to this report.

2.0 SITE LOCATION AND DESCRIPTION

The site is located in Sections 08 and 17, T101N, R20W, Shell Rock Township, Freeborn County, Minnesota (**Exhibit 1**). Land use in the Site consists of cultivated fields, large wetland complexes, and the Shell Rock River. Surrounding land use consists of cultivated agriculture fields and wetland complexes associated with the Shell Rock River. Topography is undulating throughout the Project Area but generally slopes downward towards wetlands in the north and west, with the high point of the site located in the northwestern portion of the Project Area. Elevations range from 1204 feet to 1230 feet above mean sea level (msl).

3.0 FIELD DELINEATION METHODOLOGY

3.1 Mapping

Prior to delineating wetland boundaries in the field, the National Wetlands Inventory (NWI), the National Hydrography Dataset (NHD), the Minnesota Department of Natural Resources (MN DNR) Public Waters and Wetlands Inventory (PWI), Federal Emergency Management Agency (FEMA) Federal Insurance Rate Maps (FIRM) (Exhibit 2), and the Natural Resource Conservation Service (NRCS) Soil Survey Geographic database (SSURGO2) for Dakota County (Exhibit 3) were reviewed. Elevation mapping was completed using LiDAR contours from MnTOPO (Exhibit 4). These datasets, along with aerial photographs, were used to create Desktop Wetlands (Exhibit 4) which are desktop-delineated probable wetlands that occur outside of agricultural areas and are used to guide the field delineation.

3.2 Offsite Hydrology Review

Westwood reviewed historical aerial photography to identify potential wetlands (Suspect Areas) in cultivated portions of the property using the July 1st, 2016, Minnesota Board of Water and Soil Resources (BWSR)/USACE-accepted protocol for conducting off-site wetland determinations, *Guidance for Offsite Hydrology/Wetland Determinations*. Westwood reviewed 12 years of aerial photography between the years of 2003 to 2023. The offsite hydrology review, along with aerial photographs from each reviewed year, are included in **Appendix D.**

3.3 Wetland Delineation Methodology

On April 29 and 30, 2024, wetland scientists from Westwood delineated wetlands within the Project Area using a level two routine determination methods set forth in the USACE Wetlands Delineation Manual (Environmental Laboratory, Waterways Experiment Station 1987) and the supplemental methods set forth in the regional supplement to the USACE Wetland Delineation Manual: Midwest Region (US Army Engineer Research and Development Center 2010). Data sheets documenting soils, vegetation, and hydrology data as well as photographs of delineated wetlands are included in **Appendix A**.

Wetlands were classified according to Wetlands of the United States (U.S. Fish and Wildlife Service Circular 39; Shaw and Fredine; 1971) and Wetlands and Deepwater Habitats of the United States (FWS/OBS Publication 79/31; Cowardin et. al. 1979). Common and scientific names for vegetation identified in this report and on the attached data forms generally correspond with the nomenclature used in the 2022 National Wetland Plant List (USACE 2024). Wetland boundaries and sample points were delineated in the field using a Panasonic Toughbook® tablet and an EOS Arrow 100® unit capable of sub-meter accuracy (Exhibit 5).

Suspect Areas and Desktop Wetlands (**Exhibit 4**) identified either during the Offsite Hydrology Review or using the NWI, NHD, FEMA, NRCS soils, and/or topography datasets were reviewed in the field. Suspect Areas and Desktop Wetlands that did not exhibit all three wetland parameters were documented as a non-wetland sample point (**Exhibit 5**). Data forms and photographs were also collected detailing upland characteristics for these areas (**Appendix B**).

3.4 Ordinary High Water Mark Determinations

Drainages within the Project Area were considered non-wetland Waters of the U.S. (WOTUS), as they may not exhibit all parameters required for wetlands (i.e., predominance of hydrophytes, hydric soils, and jurisdictional hydrology). Accordingly, their boundaries were delineated in the field by documenting their Ordinary High-Water Marks (OHWMs), as determined according to the USACE Regulatory Guidance Letter No. 05-05 (U.S. Army Corps of Engineers, 2005).

USACE regulations set forth at 33 CFR 328.3(e) defines the OHWM for purposes of Clean Water Act (CWA) lateral jurisdiction:

The term ordinary high-water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

USACE Regulatory Guidance Letter No. 05-05 (U.S. Army Corps of Engineers, 2005) indicates the following physical characteristics are deemed reasonably reliable, and therefore presence of these characteristics was evaluated in the field when making OHWM determinations for drainages in the Project Area:

- Natural line impressed on the bank
- Changes in the character of soil
- Presence of litter and debris
- Vegetation matted down, bent, or absent
- Leaf litter disturbed or washed away
- Deposition
- Bed and banks
- Change in plant community

- Shelving
- Destruction of terrestrial vegetation
- Wracking
- Sediment sorting
- Scour
- Multiple observed flow events
- Water staining

If present, watercourse boundaries and sample points were delineated in the field using a Panasonic Toughbook® tablet and an EOS Arrow 100® unit capable of sub-meter accuracy (**Exhibit 5**). Data forms and photographs documenting delineated watercourse characteristics are included in **Appendix C**.

Areas which were noted on the NWI or NHD datasets, or areas which exhibited potential OHWM characteristics on aerial imagery but did not contain the physical characteristics of an OHWM were reviewed in the field. A non-watercourse sample point was collected in these locations along with a photograph.

4.0 RESULTS

4.1 Mapping

NWI data mapped 26 wetlands within the Project Area. NHD data mapped two (2) watercourses and three (3) waterbodies within the Project Area. Minnesota Public Waters Inventory (PWI) mapped one (1) watercourse and no water basins within the Project Area. Approximately 40 percent of the Project Area is located within FEMA mapped flood zones (**Exhibit 2**).

The NRCS SSURGO2 for Freeborn County indicates that the soils listed in **Table 4.1** are mapped within the Site (**Exhibit 3**). Based on the NRCS Web Soil Survey Hydric Rating, there are four (4) soil units classified as all hydric within the Site.

Table 4	1.1:	Soil	Summary	/ Tal	ole
---------	------	------	---------	-------	-----

Map Symbol ¹	Map Unit Name ²	Rating ²	Percent Hydric Soil ³
5	Dakota loam, 0 to 2 percent slopes	Predominantly Non-Hydric	6
5B	Dakota loam, 2 to 6 percent slopes	Predominantly Non-Hydric	4
5C	Dakota loam, 6 to 14 percent slopes	Predominantly Non-Hydric	4
41	Estherville sandy loam, 0 to 2 percent slopes	Predominantly Non-Hydric	6
41B	Estherville sandy loam, 2 to 6 percent slopes	Predominantly Non-Hydric	1
41C	Estherville sandy loam, 6 to 12 percent slopes	Predominantly Non-Hydric	4
156	Fairhaven loam, 0 to 2 percent slopes	Predominantly Non-Hydric	4
392	Biscay clay loam, 0 to 2 percent slopes	All Hydric	100
465	Kalmarville loam, frequently flooded	Predominantly Hydric	99
517	Shandep loam	All Hydric	100
525	Muskego soils, 0 to 1 percent slopes	All Hydric	100
1030	Pits, sand and gravel	Non-Hydric	0
1055	Aquents and Histosols, ponded	All Hydric	100

¹⁻Soils determined using GIS geospatial query clipping the NRCS Soil Survey Geographic (SSURGO2) spatial data by Project boundaries.

² – As indicated in the SSURGO2 database

³ – Where percentages are small (e.g. < 15 %) the hydric soil is likely an inclusion that is not recognized in the map unit name. The absence of a value does not necessarily indicate the absence of hydric soils, but that the relative percentages of included minor soils have not been determined

4.2 **Antecedent Precipitation**

Antecedent precipitation data was evaluated for the 90 days prior to the site visit using the Antecedent Precipitation Tool (APT) developed by the USACE. Results from this data indicate antecedent precipitation was considered normal prior to the field review (Figure 4.2).

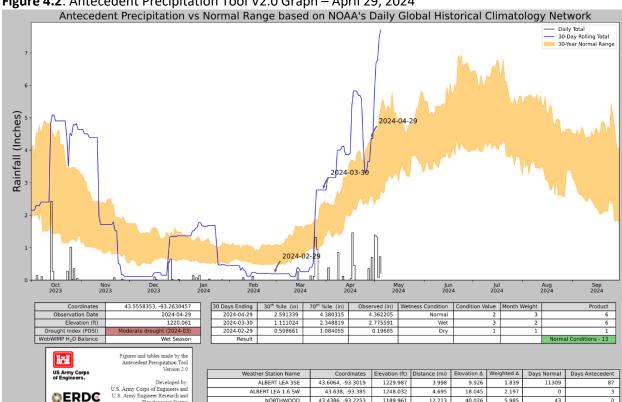


Figure 4.2: Antecedent Precipitation Tool V2.0 Graph - April 29, 2024

Offsite Hydrology Review 4.3

The site was reviewed against 12 years of aerial imagery prior to the field delineation. Three (3) Suspect Areas were identified (SA-01-03) (Exhibit 4). The results of the offsite hydrology review are included in **Appendix D**.

On-Site Wetland and Watercourse Delineation Results 4.4

Wetlands

On April 29 and 30, 2024, Westwood delineated seven (7) wetlands and one pond totaling 28.48 acres. Summaries of the delineated wetlands and pond are included in Table 4.4 below. Data forms and photographs documenting vegetation, soils, and hydrologic conditions are included in **Appendix A**.

Table 4.4: Delineated Wetland Summary Table

Wetland Name	Area (Acres)	Mapped on NWI	Cowardin Wetland Type	Circular 39 Type	Eggers & Reed Type	Latitude	Longitude
WB-01	2.48	PUBFx, PFO1Cx	PEM1E, PFO1C, PUBFx Type 2/5/7		Fresh Wet Meadow, Floodplain Forest, Shallow Open Water	43.56033	-93.26708
WB-03	3.35	PEM1A, PEM1C, PEM1Fx,PUBFx	PEM1A, PEM1E, PUBF	Type 2/3/5	Fresh Wet Meadow, Shallow Marsh, Shallow Open Water	43.55921	-93.26495
WB-04	4.80	PEM1A, PEM1C, PUBFx	PEM1A, PEM1E, PUBF	Type 2/3/5	Fresh Wet Meadow, Shallow Marsh, Shallow Open Water	43.55810	-93.26574
WB-05	0.26	No	PEM1A	Type 1	Seasonally Flooded Basin	43.55671	-93.26539
WB-06	0.56	No	PEM1A	Type 1	Seasonally Flooded Basin	43.55644	-93.26429
WB-07	0.02	PEM1A	PEM1C	Type 2	Fresh Wet Meadow	43.56044	-93.26420
WB-08	15.85	PEM1A, PEM1C, PEM1F, PEM1Fx, PUBF	PEM1A, PEM1C, PEM1F, PFO1C, PUBF	Type 2/3/5/7	Fresh Wet Meadow, Shallow Marsh, Floodplain Forest, Shallow Open Water	43.55419	-93.26179
PO-01	1.16	PUBFx	PUBFx	Type 5	Shallow Open Water	43.55761	-93.26403
Total	28.48						

Watercourses

Westwood delineated one (1) perennial watercourse (**WC-o1**) totaling 3.9 acres (3,407 linear feet) within the Project Area. This watercourse is located along the eastern boundary of the Site and flows to the southwest. It is a PWI watercourse identified as the Shell Rock River. Data forms and photographs documenting OHWM characteristics are included in **Appendix C**.

Non-Wetlands

Three (3) non-wetland points were gathered within the Project Area (**Exhibit 5**). These areas were identified prior to the delineation as either Suspect Areas or Desktop Wetlands. Data gathered at these sample points did not exhibit all three wetland parameters. Data forms and photographs documenting upland characteristics are included in **Appendix B**.

5.0 CONCLUSIONS

Westwood delineated seven (7) wetlands and one pond totaling 28.48 acres, and one (1) watercourse totaling 3.9 acres (3,407 linear feet) within the Midwater BESS site. Westwood requests that the LGU and the USACE review and process this report with the provided Joint Application Form and provide written concurrence that the extent of potentially jurisdictional water resources have been accurately identified. Please consider this report a formal Wetland Boundary request pursuant to Minn. Rules 8420.0405 and the CWA.

6.0 CERTIFICATION

I certify that, to the best of my knowledge and belief, the wetland delineation completed for this site is consistent with current wetland delineation practices and guidelines. I have the specific

qualifications, education, training, and experience to complete wetland delineations and determinations in accordance with federal and state requirements.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES

Malia Stone

Wetland Scientist

7.0 LITERATURE CITED

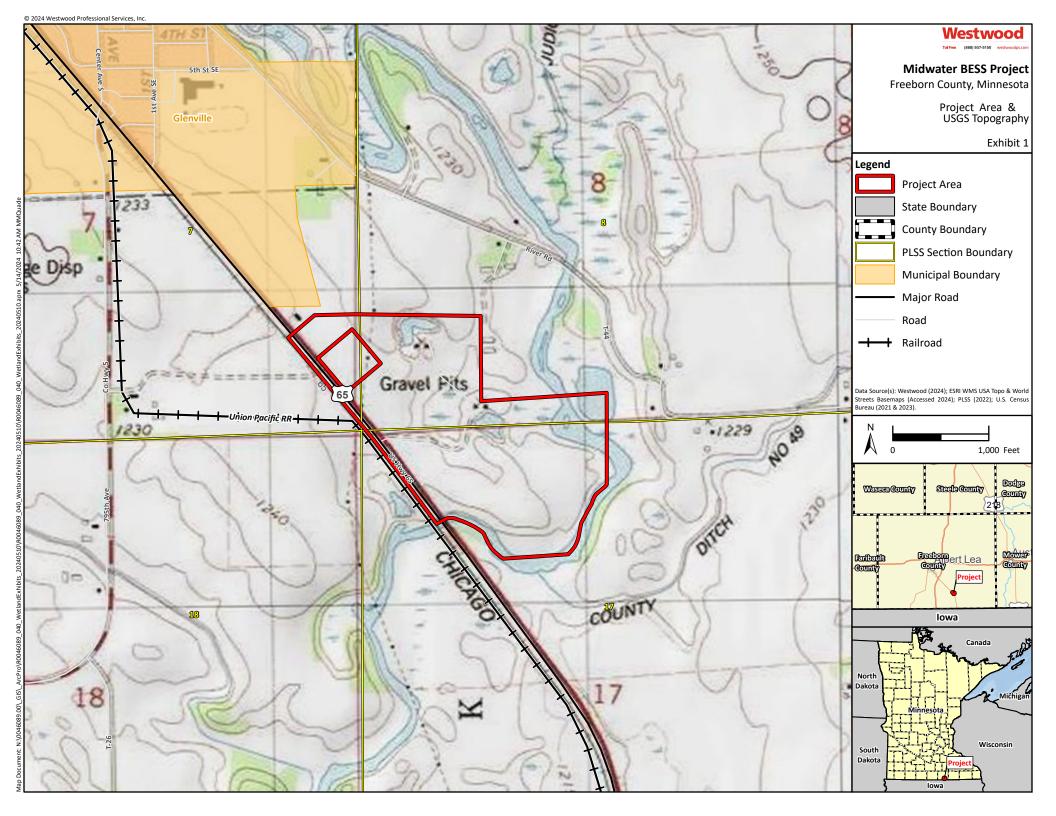
- Cowardin, L.M., V.M. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, Biological Services Program, Washington, DC, USA. FWS/OBS-79/31. 103pp.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Shaw, S.P. and C.G. Fredine. 1971. Wetlands of the United States. U.S. Fish and Wildlife Circular 39. U.S. Department of the Interior, Washington, D.C. 67 pp.
- U.S. Army Corps of Engineers, St. Paul District and Minnesota Board of Water and Soils Resources. 2016. Guidance for Offsite Hydrology/Wetland Determinations.
- U. S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Army Corps of Engineers. 2022. Antecedent Precipitation Tool v1.0.20. Available: https://github.com/erdc/Antecedent-Precipitation-Tool/releases/tag/v1.0.20
- U.S. Army Corps of Engineers. National Wetland Plant List Notice. Federal Register. Vol. 89, No. 30. Published 13 February 2024. 10059 pp.
- U.S. Fish & Wildlife Service. 2018. National Wetlands Inventory. U.S. Fish & Wildlife Service. https://data.nal.usda.gov/dataset/national-wetlands-inventory.

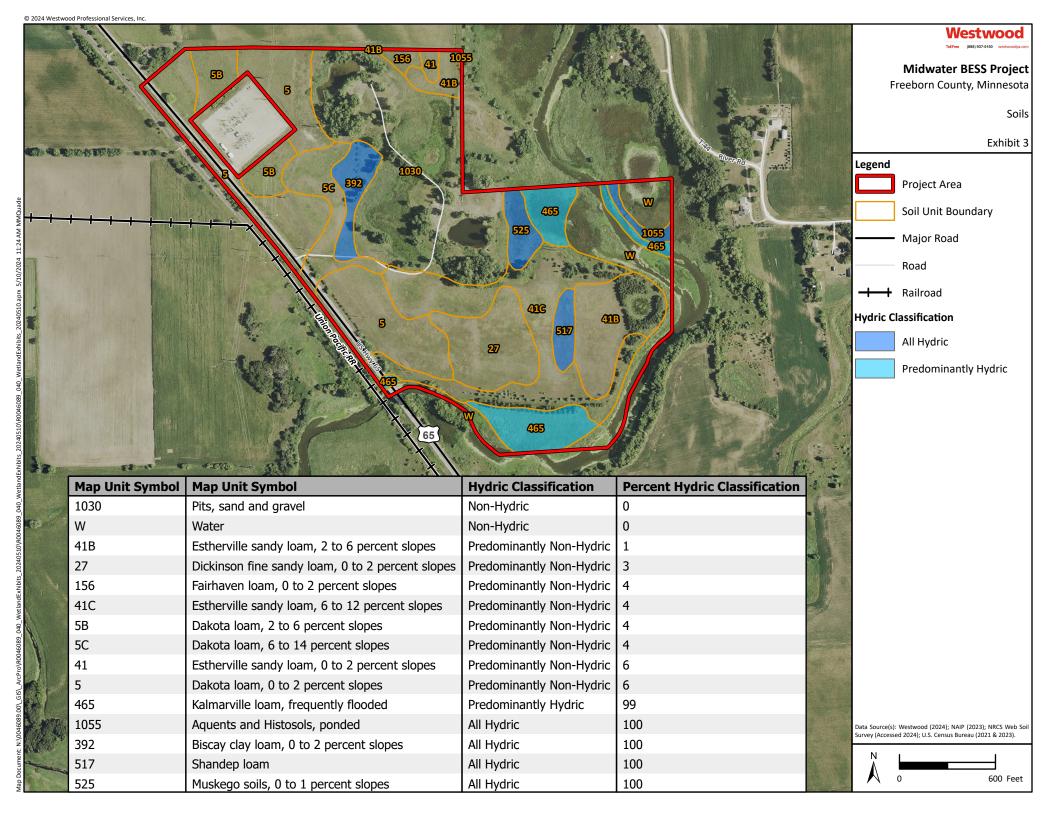
Westwood

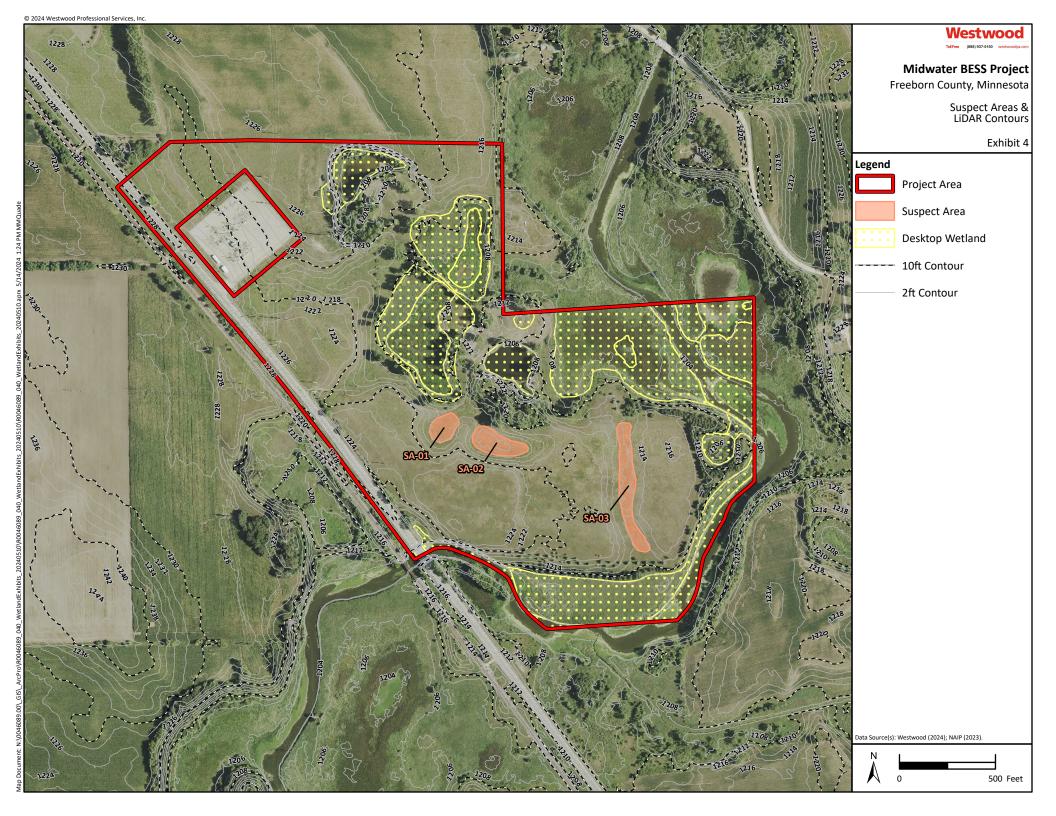
Exhibits

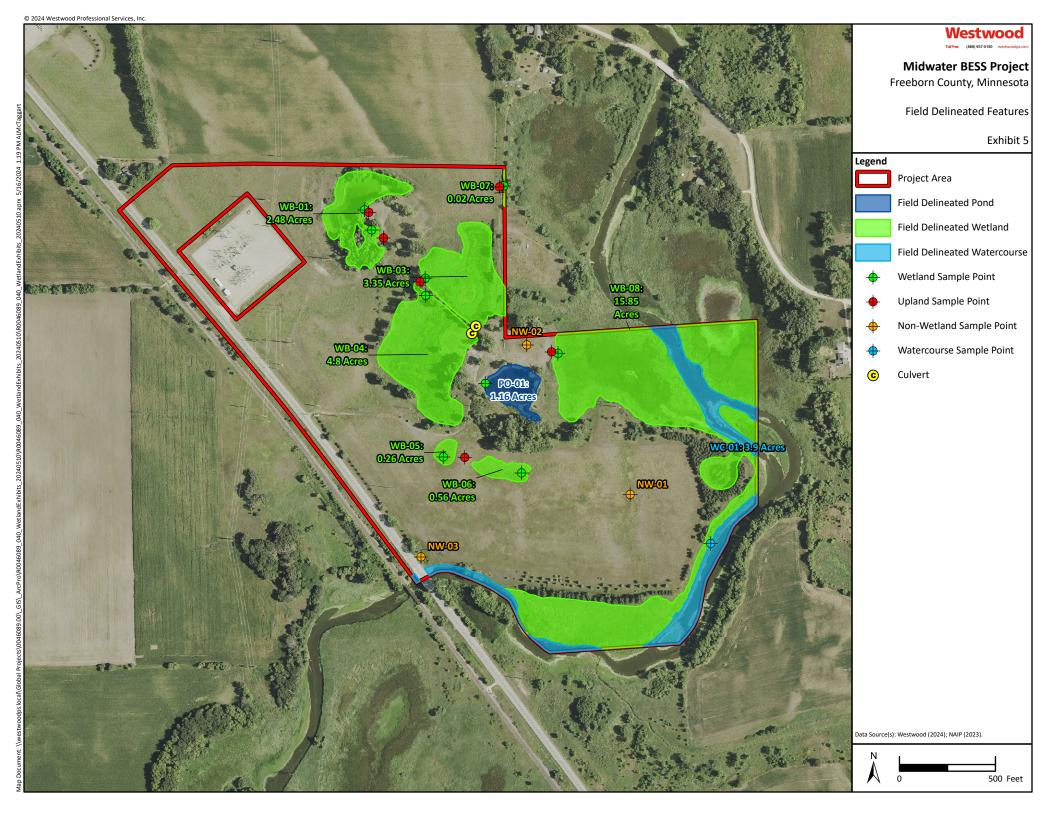
Midwater BESS

Shell Rock Township, Freeborn County, Minnesota











Appendix A

Wetland Data Forms & Photographs

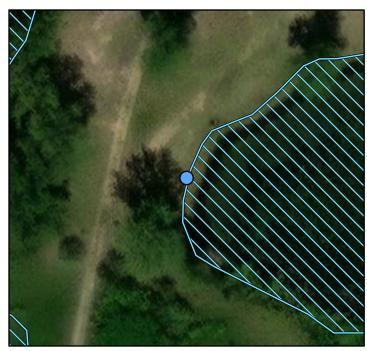
Midwater BESS

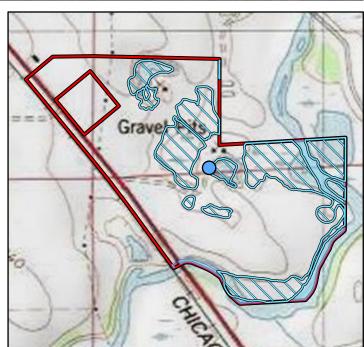
Shell Rock Township, Freeborn County, Minnesota

Midwater BESS Project Delineation Site Photograph







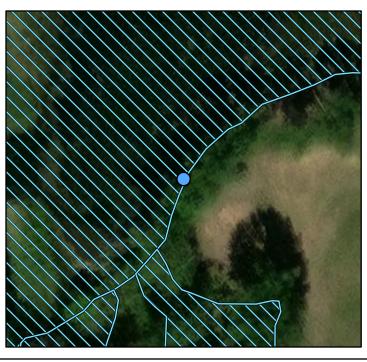


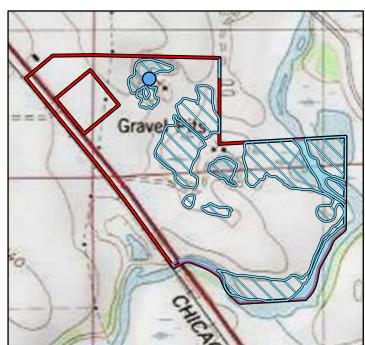
Map Document N:0046089.001 GISI, ArdProiR0046089 040 WetlandPhotologs 202405101R0046089 040 WetlandPhotologs 202405101R0046089 040 WetlandPhotologs 202405010180224 1:24 PM MMQuade

Midwater BESS Project Delineation Site Photograph









Map Document N;0046089.001 GISI Arch-0/R0046089 040 WetlandPhotologs 20240510/R0046089 040 WetlandPhotologs 2024050/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologo 2024060/R0046089 040 WetlandPhotologo

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Midwater BESS	City/County: Freeborn County Sampling Date: 2024-04-29						
Applicant/Owner: Spearmint Renewable Development		State: Minnesota Sampling Point: WB-01-wet					
Investigator(s): M. Stone, C. Gunn	Section, To	wnship, Raı	nge: sec 08 T101N R020W				
Landform (hillslope, terrace, etc.): Toeslope	l	ocal relief	(concave, convex, none): Concave				
Slope (%): <u>0-2</u> Lat: <u>43.560191</u>	Long: <u>-93.</u> 2	266967	Datum: WGS84				
Soil Map Unit Name: Pits, sand and gravel							
Are climatic / hydrologic conditions on the site typical for this time of							
Are Vegetation, Soil, or Hydrology significant			Normal Circumstances" present? Yes No				
Are Vegetation, Soil, or Hydrology naturally p			eded, explain any answers in Remarks.)				
SUMMARY OF FINDINGS – Attach site map showing	ng samplin	g point le	ocations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes No							
Hydric Soil Present? Yes ✓ No	13 (1)	e Sampled in a Wetlar					
Wetland Hydrology Present? Yes No	_ With	iii a vvetiai	iu! Tes NO				
Remarks:							
VEGETATION – Use scientific names of plants.							
Absolut			Dominance Test worksheet:				
Tree Stratum (Plot size: 30) % Cover 1. Populus deltoides 20	er Species?	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:3(A)				
2			(*,				
3			Total Number of Dominant Species Across All Strata: 3 (B)				
4			Percent of Dominant Species				
5			That Are OBL, FACW, or FAC: 100.00 (A/B)				
Sapling/Shrub Stratum (Plot size:15)) = Total Cov	er	Prevalence Index worksheet:				
1. Salix interior 30	Y	FACW	Total % Cover of: Multiply by:				
2			OBL species <u>0.00</u> x 1 = <u>0.00</u>				
3			FACW species <u>135.00</u> x 2 = <u>270.00</u>				
4			FAC species 20.00 x 3 = 60.00				
5			FACU species 0.00 x 4 = 0.00				
Herb Stratum (Plot size:5))_ = Total Cov	er	UPL species $0.00 \times 5 = 0.00$ Column Totals: $155.00 \times 5 = 0.00 \times 5 = 0.00$				
	Y	FACW	Column Totals. <u>155.50</u> (A) <u>550.50</u> (B)				
2. <u>Equisetum hyemale</u> 15	N	<u>FACW</u>	Prevalence Index = B/A = 2.13				
3			Hydrophytic Vegetation Indicators:				
4			1 - Rapid Test for Hydrophytic Vegetation				
5			 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 				
6			4 - Morphological Adaptations ¹ (Provide supporting				
7			data in Remarks or on a separate sheet)				
9.			Problematic Hydrophytic Vegetation ¹ (Explain)				
10							
105.0	0 = Total Cov	er	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Woody Vine Stratum (Plot size: 30			be present, unless disturbed of problematic.				
1			Hydrophytic				
2			Vegetation Present? Yes <u>✓</u> No				
Demodrati (Include photo purphose have a page a consiste check)	= Total Cov	er					
Remarks: (Include photo numbers here or on a separate sheet.)							

SOIL Sampling Point: WB-01-wet

SUIL									Sampling Point: <u>VVB-01-Wet</u>		
Profile Des	cription: (D	escribe	to the depth	n needed to docur	nent the	indicator	or confi	rm the absence	e of indicators.)		
Depth		Matrix			x Feature		2	_			
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks		
0-2	<u>10YR</u>	2/2	100					MMI	Sandy inclusions and organic r		
2-6	10YR	4/1	100					cos			
6-16	10YR	4/1	100					cos	Gravel inclusions		
0-10	10111	- - 7/ I	100			·			<u> </u>		
			<u> </u>					_	· ———		
	_										
¹Type: C=C	Concentration	n D=Der	letion RM=F	Reduced Matrix, M	S=Masker	d Sand Gr	ains	21.0	ocation: PL=Pore Lining, M=Matrix.		
	Indicators:		iction, rtivi i	teadoca Matrix, Mi	J Washer	a cana ch	unio.		s for Problematic Hydric Soils ³ :		
Histoso	ol (A1)			Sandy (Gleyed Ma	atrix (S4)			t Prairie Redox (A16)		
· · · · · · · · · · · · · · · · · · ·	pipedon (A2	2)			Redox (S5						
Black H	Histic (A3)	,		•	d Matrix (S	,			Surface (S7)		
	en Sulfide (A	,		Loamy	Mucky Mi	neral (F1)			Manganese Masses (F12)		
	ed Layers (A	5)			Gleyed M			-	Shallow Dark Surface (TF12)		
<u>✓</u> 2 cm M	, ,				d Matrix (Other	(Explain in Remarks)		
-	ed Below Da		e (A11)		Dark Surfa	` ,		31	- A book a should be a same of the same of		
l —	Oark Surface Mucky Mine				o Dark Si Depressio	urface (F7))		rs of hydrophytic vegetation and nd hydrology must be present,		
	lucky Peat o	. ,	3)	Redux i	Jehi essio	115 (1 0)			s disturbed or problematic.		
	Layer (if ob							1 11100	o dictarbod of problematic.		
Type: S	-	,									
	nches): <u>16</u>							Hydric Soi	il Present? Yes ✓ No		
Remarks:	101100). <u>10</u>							Tiyano oo	100 <u>100 100 100 100 100 100 100 100 100</u>		
HYDROLO	OGY										
Wetland H	ydrology Ind	dicators:									
Primary Ind	icators (mini	mum of c	ne is require	ed; check all that ap	ply)			Second	dary Indicators (minimum of two required)		
Surface	e Water (A1)		•	Water-Sta	ined Leav	res (B9)		Su	rface Soil Cracks (B6)		
	ater Table (Aquatic Fa	auna (B13	3)		 Dra	ainage Patterns (B10)		
<u>✓</u> Saturat	tion (A3)	ŕ		True Aqua				Dry-Season Water Table (C2)			
	Marks (B1)			Hydrogen				Cra	ayfish Burrows (C8)		
	ent Deposits	(B2)		Oxidized F			ing Root		turation Visible on Aerial Imagery (C9)		
Drift De	eposits (B3)			Presence	of Reduce	ed Iron (C4	4)	Stu	unted or Stressed Plants (D1)		
	lat or Crust (B4)		Recent Iro	n Reduct	ion in Tille	d Soils (0	C6) <u>√</u> Ge	eomorphic Position (D2)		
Iron De	posits (B5)			Thin Muck	Surface	(C7)		<u>•</u> FA	C-Neutral Test (D5)		
Inunda	tion Visible o	n Aerial	lmagery (B7)	Gauge or	Well Data	(D9)					
Sparse	ly Vegetated	Concav	e Surface (B	8) Other (Exp	olain in Re	emarks)					
Field Obse	rvations:										
Surface Wa	iter Present?	Y	es N	o 🔽 Depth (in	ches):						
Water Table	e Present?	Y	′es <u> ✓ </u>	o Depth (in	ches):	10					
Saturation I	Present?	Y	′es <u> v </u>	o Depth (in	ches):	8	We	tland Hydrolog	gy Present? Yes 🗸 No		
	apillary fringe	e)									
Describe R	ecorded Data	a (stream	gauge, mor	nitoring well, aerial	photos, pr	evious ins	pections	s), if available:			
Remarks:											
1											

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Midwater BESS	Ci	City/County: Freeborn County Sampling Date: 2024-04-29					
Applicant/Owner: Spearmint Renewable Development		State: Minnesota Sampling Point: WB-01-up					
Investigator(s): M. Stone, C. Gunn	S	ection, Tov	wnship, Rar	nge: sec 08 T101N R020W			
Landform (hillslope, terrace, etc.): Sideslope		L	ocal relief (concave, convex, none): Convex			
Slope (%): <u>3-7</u> Lat: <u>43.560147</u>	Lc	ong: <u>-93.2</u>	266874	Datum: WGS84			
Soil Map Unit Name: Pits, sand and gravel							
Are climatic / hydrologic conditions on the site typical for this time							
Are Vegetation, Soil, or Hydrology signific	-			Normal Circumstances" present? Yes No			
Are Vegetation, Soil, or Hydrology natural				eded, explain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map show			g point lo	ocations, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes No	<u> </u>	lo the	e Sampled	A			
Hydric Soil Present? Yes No	<u> </u>		n a Wetlan				
Wetland Hydrology Present? Yes No	<u>~</u>	With	ii a wedan	163 <u> </u>			
Remarks:							
VEGETATION – Use scientific names of plants.							
		Dominant		Dominance Test worksheet:			
	<u>50ver</u> <u>3</u> 40	Species?	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)			
2							
3				Total Number of Dominant Species Across All Strata: 4 (B)			
4				Percent of Dominant Species			
5		T-4-1 O		That Are OBL, FACW, or FAC: 50.00 (A/B)			
Sapling/Shrub Stratum (Plot size:15)	<u>0.0 </u>	Total Cov	er	Prevalence Index worksheet:			
1. Lonicera canadensis	5	<u>Y</u>	FACU	Total % Cover of: Multiply by:			
2				OBL species <u>0.00</u> x 1 = <u>0.00</u>			
3				FACW species $16.00 \times 2 = 32.00$			
4				FAC species 90.00 x 3 = 270.00			
5				FACU species <u>25.00</u> x 4 = <u>100.00</u>			
Herb Stratum (Plot size: 5)	<u>).() </u>	Total Cov	er	UPL species $0.00 \times 5 = 0.00$ Column Totals: $131.00 \times 5 = 0.00 \times 5 = 0.00$			
	50	Υ	FAC	Column Totals. <u>131.00</u> (A) <u>402.00</u> (B)			
2. Bromus inermis	20	Υ	FACU	Prevalence Index = B/A = 3.07			
3. Phalaris arundinacea	16	N	<u>FACW</u>	Hydrophytic Vegetation Indicators:			
4				1 - Rapid Test for Hydrophytic Vegetation			
5				2 - Dominance Test is >50%			
6				3 - Prevalence Index is ≤3.0¹			
7				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
8				Problematic Hydrophytic Vegetation ¹ (Explain)			
9							
		Total Cov		¹ Indicators of hydric soil and wetland hydrology must			
Woody Vine Stratum (Plot size: 30)	<u> </u>		-	be present, unless disturbed or problematic.			
1				Hydrophytic			
2				Vegetation			
	0 =	Total Cov	er	Present? Yes No			
Remarks: (Include photo numbers here or on a separate sheet.	.)						

SOIL Sampling Point: WB-01-up

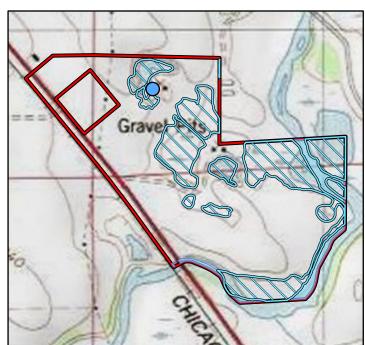
Profile Des	cription: (D	escribe	to the dep	th needed	l to docur	nent the	indicator	or confir	m the absence	of indicators.)		
Depth Matrix Redox Features				_								
(inches)	Color (ı	moist)	<u></u> %	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks		
0-6	<u>10YR</u>	3/2	100						LS	Organic material		
6-20	<u>10YR</u>	4/4	100						COS			
20-24	_10YR	4/3	95	5YR	4/6	5	С	PL	LCOS			
	-											
l 						-						
¹Type: C=C			letion, RM=	Reduced	Matrix, MS	S=Masked	d Sand Gra	ains.		cation: PL=Pore Lining, M=Matrix.		
Hydric Soil										s for Problematic Hydric Soils ³ :		
Histoso	I (A1) pipedon (A2))		_		Gleyed Ma			Coast	Prairie Redox (A16)		
	istic (A3)	.)				Redox (S5 d Matrix (S				Surface (S7)		
	en Sulfide (A	\ 4)				,	neral (F1)			langanese Masses (F12)		
Stratifie	d Layers (A	5)			_ Loamy	Gleyed M	atrix (F2)		•	Shallow Dark Surface (TF12)		
	uck (A10)					d Matrix (Other	(Explain in Remarks)		
	d Below Da		e (A11)	_	_	Dark Surfa	. ,		31			
	ark Surface Mucky Miner					o Dark St Depressio	urface (F7)			s of hydrophytic vegetation and nd hydrology must be present,		
	ucky Peat or		3)		_ 1100001	opi coolo	110 (1 0)			s disturbed or problematic.		
Restrictive	Layer (if ob	served):	,							·		
Type:												
Depth (in	ches):								Hydric Soi	I Present? Yes No <u>✔</u>		
Remarks:									· · · · · ·			
HYDROLO												
Wetland Hy												
Primary Indi	cators (mini	mum of o	ne is requir	ed; check	all that ap	ply)			Second	ary Indicators (minimum of two required)		
	Water (A1)			_	Water-Sta		, ,			face Soil Cracks (B6)		
	ater Table (A	A2)			Aquatic Fa				Drainage Patterns (B10)			
Saturati					True Aqua		` '			r-Season Water Table (C2)		
	Marks (B1)	(D2)			Hydrogen			ina Doots		ayfish Burrows (C8)		
	nt Deposits posits (B3)	(BZ)					eres on Liv ed Iron (C4	-		turation Visible on Aerial Imagery (C9) Inted or Stressed Plants (D1)		
_	at or Crust (R4)					ion in Tille	,		omorphic Position (D2)		
	posits (B5)	<i>D</i> .,			Thin Muck			2 000 (0		C-Neutral Test (D5)		
l —	ion Visible o	n Aerial I	magery (B7		Gauge or					,		
	y Vegetated		• • •		Other (Exp		. ,					
Field Obser	vations:											
Surface Wat	ter Present?	Y	es I	No	Depth (in	ches):						
Water Table	Present?	Υ	es I	No <u>/</u>	Depth (in	ches):						
Saturation Present? Yes No V Depth (inches): Wetland Hydrology Present? Yes No V								yy Present? Yes No 🗸				
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:												
Describe Ne	corueu Date	a (Sileaili	gauge, mo	millioning w	eli, aeriai į	priotos, pr	evious iris	pections), II avallable.			
Remarks:												
None ob	served.											

Midwater BESS Project Delineation Site Photograph









Map Document N;0046089 001 GISI ArcProR0046089 040 WeilandPhotologs 20240510/R0046089 040 WeilandPhotologs 20240510/R0046089 040 WeilandPhotologs 20240510/R004

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Midwater BESS	City/County: Freeborn County Sampling Date: 2024-04-29				
Applicant/Owner: Spearmint Renewable Development			State: Minnesota Sampling Point: WB-01A-WET		
Investigator(s): M. Stone, C. Gunn	Section	n, Township,	Range: sec 08 T101N R020W		
Landform (hillslope, terrace, etc.): Depression		Local re	ief (concave, convex, none): Concave		
Slope (%): <u>0-2</u> Lat: <u>43.559822</u>	Long:	-93.26673	1 Datum: WGS84		
Soil Map Unit Name: Pits, sand and gravel					
Are climatic / hydrologic conditions on the site typical for this time o					
Are Vegetation, Soil, or Hydrology significal	-				
Are Vegetation, Soil, or Hydrology naturally			needed, explain any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map show					
		1	, , , , , , , , , , , , , , , , , , , ,		
Hydrophytic Vegetation Present? Yes _ \(\bullet\) No Hydric Soil Present? Yes _ \(\bullet\) No		Is the Samp			
Wetland Hydrology Present? Yes _ ✓ No		within a We	tland? Yes <u>/</u> No		
Remarks:					
VEGETATION – Use scientific names of plants.					
Absol	lute Domi	nant Indicate	Dominance Test worksheet:		
Tree Stratum (Plot size: 30) % Co	ver Spec	ies? Statu	Number of Dominant Species		
1			That Are OBL, FACW, or FAC: 4 (A)		
2			Total Number of Dominant		
3			Species Across All Strata: 4 (B)		
4			Percent of Dominant Species		
5	= Tota	l Cover	That Are OBL, FACW, or FAC: 100.00 (A/B)		
Sapling/Shrub Stratum (Plot size: 15)			Prevalence Index worksheet:		
1. <u>Salix nigra</u> 10					
2. <u>Salix interior</u> 5					
3			FACW species x 2 =		
4			FAC species x 3 =0.00 FACU species x 4 =0.00		
5	.0 = Tota		UPL species 0.00 x 5 = 0.00		
Herb Stratum (Plot size: 5)	<u>.0</u> – 1018	i Covei	Column Totals: 65.00 (A) 120.00 (B)		
1. Phalaris arundinacea 40	<u> Y</u>	FAC\	<u>V</u>		
2. <u>Carex spp.</u> 10	<u> </u>	FAC			
3			Hydrophytic Vegetation Indicators:		
4			 _ ✓ 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% 		
5			✓ 3 - Prevalence Index is ≤3.01		
6			4 - Morphological Adaptations ¹ (Provide supporting		
7			data in Remarks or on a senarate sheet)		
9			 Problematic Hydrophytic Vegetation¹ (Explain) 		
10			_		
	.0 = Tota		¹ Indicators of hydric soil and wetland hydrology must		
Woody Vine Stratum (Plot size:)			be present, unless disturbed or problematic.		
1			- Hydrophytic		
2			Vegetation		
0	= Tota	l Cover	Present? Yes No		
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL Sampling Point: WB-01A-WET

rofile Description: (Description: (Description: (Description: Description: (Description: Marinx Redox Features Calor (moist) Scotior (moist) Scotio	nofile Description: (De	escribe to	the denth n	eeded to docu	nent the i	indicator	or confirm	the absence	Sa of indicator	s)	
Inches Color (moist)			the depth ii				or commi	i tile abselle	or marcator	3.,	
LS			% (Loc ²	Texture		Remarks	
2-4	0-2 10YR	2/1	100					MMI	Roots in	upper 2in.	
4-6 2.5Y 4/3 100 COS 6-12 5GY 4/1 100 COS 6-12 5GY											
Code											
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, Ms=Masked Sand Grains. Indicators:						· ——			-		
Histosol (A1)	<u>6-12 </u>	<u>4/1 </u>	<u> 100 </u>			·		<u>COS</u>			
Histosof (A1) Histosof (A1) Histosof (A2) Black Histic (A3) Black Histic (A3) Stripped Matrix (S6) Hydrogen Sulfide (A4) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Merea (A12) Some Muck (A10) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Some Muck (A13) Hydric Soil Present? Yes ✓ No Momental Interval (A13) Some Muck (A13) Hydric Soil Present? Yes ✓ No Some Muck (A13) Presence of Reduced Iron (C4) Agal Mat or Crust (B4) Iron Deposits (B3) Presence of Reduced Iron (C4) Agal Mat or Crust (B4) Iron Deposits (B5) Iron Muck Surface (C7) Some Muck (A14) Some Muck (A15) Depth (Inches): Iron Deposits (B5) Iron Muck (A16) Depth (Inches): Iron Deposits (B5) Iron Muck (A16) Wetten Mark (B1) Some Muck (A16) Wetten Muck (A16) Iron Deposits (B5) Iron Deposits (B5) Iron Deposits (B5) Iron Deposits (B7) Some Muck (A16) Iron											
Histosol (A1)					_						
Histosol (A1)											
_ Histosol (A1) Sandy Gleyed Matrix (S4) Coast Praine Redox (A16)	ype: C=Concentration,	, D=Deple	tion, RM=Red	duced Matrix, M	S=Masked	d Sand Gra	ains.	² Lc	cation: PL=P	ore Lining, M=N	Matrix.
Histic Epipedon (A2) Black Histic (A3) Black Histic (A10) Bepleted Matrix (F2) Bepleted Matrix (F2) Bepleted Matrix (F2) Bepleted Dark Surface (F6) Black Histic (A12) Bepleted Dark Surface (F7) Black Dark Surface (A12) Bepleted Dark Surface (F7) Black Dark Surface (F7) Black Black Histic (F7) Black	dric Soil Indicators:							Indicators	for Problem	atic Hydric So	oils³:
Black Histic (A3) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F2) Very Shallow Dark Surface (TF12) Depleted Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S3) Som Mucky Peat or Peat (S3) Setrictive Layer (if observed): Type: Rock Depth (inches): 12 Imary Indicators (minimum of one is required: check all that apply) Surface Water (A1) Surface Water (A1) Surface (A2) Surface (A3) Water-Stained Leaves (B9) Surface Soil Cracks (B6) Figh Water Table (A2) Saturation (A3) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Drift Deposits (B3) Presence of Reduced Inon (R4) Loamy Micky Mineral (F2) Loamy Micky Mineral (F1) Loamy Mucky Mineral (F1) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B3) Presence of Reduced Inon (C4) Loamy Micky Mineral (F1) Loamy Micky Mineral (F1) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B3) Presence of Reduced Inon (C4) Loamy Micky Mineral (F12) Loamy Micky Mineral (F12) Very Shallow Dark Surface (F7) Secondary Indicators (minimum of two required for the present (P1) Secondary Indicators (minimum of two required for the present (P1) Secondary Indicators (minimum of two required for the present (P1) Secondary Indicators (Minimum of two required for the present (P1) Secondary Indicators (minimum of two required for the present (P1) Secondary Indicators (Minimum of two required for the present (P1) Secondary Indicators (Minimum of two required for the present (P1) Secondary Indicators (Minimum of two required for the present (P1) Secondary Indicators (Minimum of two required for the present (P1) Secondary Indicators (Minimum of two required for the present (P1) Secondary Indicators (Minimum of two required for the pre	Histosol (A1)			<u></u> Sandy €	Gleyed Ma	atrix (S4)		Coas	Prairie Redo	x (A16)	
Slack Histic (A3)	, ,			— Sandy I	Redox (S5	5)		— Dark	Surface (S7)		
Stratified Layers (A5) Loamy Gleyed Matrix (F2) 2 cm Muck (A10) Depleted Depleted Deark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peta or Peat (S3) Presence Took resistance I all that apply Bround Surface (A12) Presence Redox Depressions (F8) Presence Redox Depressions (F8) Presence Redox Depressions (F8) Depleted Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peta or Peat (S3) Presence Redox Depressions (F8) Probletic Layer (if observed): Type: Rock Depth (inches): 12 Probletic Redox Depressions (F8) Presence Redox Depression (F									` ,	2000 (F12)	
Depleted Matrix (F3) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Samdy Mucky Mineral (S1) Som Mucky Peat or Peat (S3) Strictive Layer (if observed): Type: Rock Depth (inches): 12 Mydric Soil Present? Yes V No Mater Aguatic Plants (B14) Saturation (A3) Saturation (A3) True Aquatic Plants (B14) Depth (inches): 19 Drift Deposits (B3) Drift Deposits (B3) Drift Deposits (B3) Drift Deposits (B3) Drive Surface (B8) Drive Surface (B8) Drive Surface (B8) Drive Surface (B8) Drive Saturation (Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Drive Surface (B8) Drive Surface (B8) Drive Face on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Drive Surface (B8) Drive Face on Aerial Imagery (B7) Drive Surface (B8) Drive Face on Aerial Imagery (B7) Drive Surface (B8) Drive Face on Aerial Imagery (B7) Drive Surface (B8) Drive Face of Reduced In (C4) Surface Or Surface (B8) Drive Face on Aerial Imagery (B7) Drive Surface (B8) Drive Face on Aerial Imagery (B7) Drive Surface (B8) Drive Face on Aerial Imagery (B7) Drive Face on Aerial I		,			•	, ,			•	, ,	
Depleted Below Dark Surface (A11))			-			-			
Thick Dark Surface (A12)	- ,	Curface ((Δ11)					Other	(Explain in K	emarks)	
Sandy Mucky Mineral (S1) Redox Depressions (F8) wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Rock Depth (inches): 12			,711)			` '		3Indicator	s of hydrophy	tic vegetation a	nd
										-	
Type: Rock Depth (inches): 12				Redox Depressions (FO)							
DROLOGY Setiand Hydrology Indicators: mary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Hydrogen Surface (A2) Water-Stained Leaves (B9) Hydrogen Surface Soil Cracks (B6) High Water Table (A2) Water Handis (B1) Water Handis (B1) Water Handis (B1) Water Marks (B1) Drainage Patterns (B10) Saturation (A3) True Aquatic Plants (B14) Dry-Season Water Table (C2) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B3) Presence of Reduced Iron (C4) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Joint Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Set Observations: rface Water Present? Yes No Depth (inches): ater Table Present? Yes No Depth (inches): ater Table Present? Yes No Depth (inches): Scribe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available:	strictive Laver (if obs	erved):								-	
DROLOGY DROLOGY Detaind Hydrology Indicators: Imary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) True Aquatic Plants (B14) Water Marks (B1) Sediment Deposits (B2) Oridized Rhizospheres on Living Roots (C3) Driling Roots (C3) Driling Roots (C3) Saturation Visible on Aerial Imagery (B7) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Metal Mydrology Present? Yes No Depth (inches):				_							
DROLOGY Setland Hydrology Indicators: mary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Aquatic Fauna (B13) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Driningae Patterns (B10) Sediment Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Ino Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Ind Observations: rface Water Present? Yes No Depth (inches):								Hydric Soil Present? Yes ✔ No			
rimary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Algal Mat or Crust (B4) Induction (B5) Induction (B6) Thin Muck Surface (C7) Induction Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) atter Table Present? Yes No Depth (inches):	Type: Rock Depth (inches): 12 emarks:	ance la	yer at 12	- 2in.				Hydric Soi	I Present?	Yes <u>v</u>	<u> </u>
Secondary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Sediment Present? Yes No Depth (inches):	Type: Rock Depth (inches): 12 emarks: arge rock resista	ance la	yer at 12	- 2in.				Hydric Soi	I Present?	Yes <u>v</u>	No
	Type: Rock Depth (inches): 12 emarks: earge rock resista		yer at 12	- 2in.				Hydric Soi	I Present?	Yes <u>v</u>	No
High Water Table (A2)	Type: Rock Depth (inches): 12 emarks: arge rock resista	cators:			oply)						
	Type: Rock Depth (inches): 12 emarks: arge rock resista DROLOGY etland Hydrology Indi imary Indicators (minim	cators:		check all that ap		on (PO)		Second	ary Indicators	(minimum of tv	
	Type: Rock Depth (inches): 12 emarks: arge rock resista DROLOGY etland Hydrology Indi imary Indicators (minim _ Surface Water (A1)	icators:		check all that ar	ined Leav	` '		Second	ary Indicators face Soil Cra	(minimum of two	
	Type: Rock Depth (inches): 12 marks: arge rock resista DROLOGY etland Hydrology Indi mary Indicators (minim Surface Water (A1) High Water Table (A2)	icators:		check all that ar Water-Sta Aquatic Fa	ined Leav auna (B13)		Second Su	ary Indicators face Soil Cra ainage Patterr	(minimum of two	
Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) and Observations: Inface Water Present? Yes No Depth (inches): atter Table Present? Yes No Depth (inches): atter Table Present? Yes No Depth (inches): Objective Coludes capillary fringe) Secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Depth (inches): 12 marks: arge rock resista DROLOGY etland Hydrology Indi imary Indicators (minim Surface Water (A1) High Water Table (A2) Saturation (A3)	icators:		check all that an Water-Sta Aquatic Fa True Aqua	ined Leav auna (B13 atic Plants	(B14)		Second Su Dra	ary Indicators face Soil Cra sinage Patterr r-Season Wat	(minimum of two	
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) eld Observations: Inface Water Present? Yes No Depth (inches): ater Table Present? Yes No Depth (inches): turation Present? Yes No Depth (inches): 6 Wetland Hydrology Present? Yes No Depth (inches): Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Inface Water Present? Yes No Depth (inches): Ater Table Present? Yes No Ater Table Present? Yes No Depth (inches): Ater T	Type: Rock Depth (inches): 12 marks: arge rock resista DROLOGY etland Hydrology Indi mary Indicators (minim Surface Water (A1) High Water Table (A3) Saturation (A3) Water Marks (B1)	icators: num of one		check all that ap Water-Sta Aquatic Fa True Aqua Hydrogen	ined Leav auna (B13 atic Plants Sulfide O	(B14) dor (C1)	ing Poots	Second Su Dra Dry Cra	ary Indicators face Soil Cra ainage Patterr r-Season Wat	(minimum of two	wo requir
Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks)	Type: Rock Depth (inches): 12 Emarks: Arge rock resista DROLOGY Etland Hydrology Indi Emary Indicators (minim Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (I	icators: num of one		check all that ar — Water-Sta — Aquatic Fa — True Aqua — Hydrogen — Oxidized F	ined Leav auna (B13 atic Plants Sulfide Oo Rhizosphe	(B14) dor (C1) eres on Liv	•	Second Sul Dra Dra Cra (C3) Sa	ary Indicators face Soil Cra ninage Patterr -Season Wat nyfish Burrows uration Visible	(minimum of two cks (B6) as (B10) er Table (C2) s (C8) e on Aerial Imag	wo requir
	Type: Rock Depth (inches): 12 Emarks: DROLOGY Detland Hydrology Indicators (minimary Indicators (minimary Indicators (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3)	icators: num of one 2) B2)		check all that ar — Water-Sta — Aquatic Fa — True Aqua — Hydrogen — Oxidized F — Presence	ined Leav auna (B13 atic Plants Sulfide Oo Rhizosphe of Reduce	(B14) (B14) dor (C1) eres on Liv ed Iron (C4	ł)	Second Sul Dra Cra (C3) Sal Stu	ary Indicators face Soil Cra ainage Patterr r-Season Wat ayfish Burrows curation Visible	(minimum of two cks (B6) as (B10) ar Table (C2) as (C8) ar on Aerial Images and Plants (D1)	wo requir
Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) eld Observations: Inface Water Present? Yes No Depth (inches): ater Table Present? Yes No Depth (inches): Inturation Present? Yes No Depth (inches): cludes capillary fringe) secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Depth (inches): 12 Emarks: Arge rock resista DROLOGY Etland Hydrology Inditionary Indicators (minimary Indicators (Minimary Indicators (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B	icators: num of one 2) B2)		check all that and the control of th	ined Leav auna (B13 atic Plants Sulfide Oo Rhizosphe of Reduce on Reducti	(B14) dor (C1) eres on Lived Iron (C4) don in Tille	ł)	Second Sul Dra Dry Cra (C3) Sat Stu Stu.	ary Indicators face Soil Cra ainage Patterr -Season Wat ayfish Burrows curation Visible inted or Stress comorphic Pos	(minimum of two cks (B6) as (B10) as (C8) as on Aerial Images de Plants (D1) aition (D2)	wo requir
And the present of th	Depth (inches): 12 marks: arge rock resista DROLOGY etland Hydrology Indi mary Indicators (minim Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5)	icators: num of one 2) B2)	e is required;	check all that and water-State Aquatic Farmer Aquatic Farmer Aquatic Farmer Aquatic Farmer Aquatic Farmer Appensive Fresence Farmer Appensive	ined Leavenuna (B13 atic Plants Sulfide Ocariosphe of Reduce on Reduction Surface ((B14) dor (C1) eres on Lived Iron (C4) fon in Tiller	ł)	Second Sul Dra Dry Cra (C3) Sat Stu Stu.	ary Indicators face Soil Cra ainage Patterr -Season Wat ayfish Burrows curation Visible inted or Stress comorphic Pos	(minimum of two cks (B6) as (B10) as (C8) as on Aerial Images de Plants (D1) aition (D2)	wo requii
rface Water Present? Yes Nov _ Depth (inches): ater Table Present? Yes _v _No Depth (inches): turation Present? Yes _v _No Depth (inches): cludes capillary fringe) scribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Depth (inches): 12 marks: Type rock resista DROLOGY etland Hydrology Indi mary Indicators (minim Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5) Inundation Visible on	icators: num of one 2) B2) 44)	e is required;	check all that and water-State Aquatic Fare Aquatic Fare Hydrogen Oxidized Fare Presence Recent Iron Thin Mucker Gauge or	ined Leave auna (B13 atic Plants Sulfide Oc Rhizosphe of Reduce on Reducti & Surface ((B14) dor (C1) eres on Lived Iron (C4) ion in Tiller (C7) (D9)	ł)	Second Sul Dra Dry Cra (C3) Sat Stu Stu.	ary Indicators face Soil Cra ainage Patterr -Season Wat ayfish Burrows curation Visible inted or Stress comorphic Pos	(minimum of two cks (B6) as (B10) as (C8) as on Aerial Images de Plants (D1) aition (D2)	wo requii
ater Table Present? Yes V No Depth (inches): 10 turation Present? Yes No Depth (inches): 6 Wetland Hydrology Present? Yes No No Depth (inches): 10 cludes capillary fringe) scribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Type: Rock Depth (inches): 12 marks: Trge rock resista DROLOGY etland Hydrology Indi mary Indicators (minim Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5) Inundation Visible on Sparsely Vegetated (A2)	icators: num of one 2) B2) 44)	e is required;	check all that and water-State Aquatic Fare Aquatic Fare Hydrogen Oxidized Fare Presence Recent Iron Thin Mucker Gauge or	ined Leave auna (B13 atic Plants Sulfide Oc Rhizosphe of Reduce on Reducti & Surface ((B14) dor (C1) eres on Lived Iron (C4) ion in Tiller (C7) (D9)	ł)	Second Sul Dra Dry Cra (C3) Sat Stu Stu.	ary Indicators face Soil Cra ainage Patterr -Season Wat ayfish Burrows curation Visible inted or Stress comorphic Pos	(minimum of two cks (B6) as (B10) as (C8) as on Aerial Images de Plants (D1) aition (D2)	wo requir
turation Present? Yes No Depth (inches): 6 Wetland Hydrology Present? Yes No Cludes capillary fringe) secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Type: Rock Depth (inches): 12 Emarks: DROLOGY Etland Hydrology Indicators (minimary Indicator	icators: num of one 2) B2) 34) Aerial Ima	e is required; agery (B7) Surface (B8)	check all that are Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck Gauge or Other (Exp	ined Leav auna (B13 atic Plants Sulfide Oo Rhizosphe of Reduce on Reducti a Surface (Well Data blain in Re	(B14) (B14) dor (C1) eres on Liv ed Iron (C4) fon in Tiller (C7) (D9) emarks)	ł)	Second Sul Dra Dry Cra (C3) Sat Stu Stu.	ary Indicators face Soil Cra ainage Patterr -Season Wat ayfish Burrows curation Visible inted or Stress comorphic Pos	(minimum of two cks (B6) as (B10) as (C8) as on Aerial Images de Plants (D1) aition (D2)	wo requir
cludes capillary fringe) escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Depth (inches): 12 Permarks: Parge rock resistant DROLOGY Petland Hydrology India Emary Indicators (minimany	Ecators: Dum of one 2) B2) A4) Aerial Ima Concave S	agery (B7) Surface (B8)	check all that and water-State Aquatic Farmer Aquat	ined Leaver ined L	(B14) (B14) dor (C1) eres on Liv ed Iron (C4 don in Tiller (C7) (D9) emarks)	ł)	Second Sul Dra Dry Cra (C3) Sat Stu Stu.	ary Indicators face Soil Cra ainage Patterr -Season Wat ayfish Burrows curation Visible inted or Stress comorphic Pos	(minimum of two cks (B6) as (B10) as (C8) as on Aerial Images de Plants (D1) aition (D2)	wo requir
escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Type: Rock Depth (inches): 12 emarks: arge rock resista DROLOGY etland Hydrology Indi imary Indicators (minim Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5) Inundation Visible on Sparsely Vegetated (B1) etla dobservations: urface Water Present? ater Table Present?	Ecators: num of one 2) B2) Aerial Ima Concave S Yes	agery (B7) Surface (B8) S No _	check all that ap Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck Gauge or Other (Exp	ined Leav auna (B13 atic Plants Sulfide Oo Rhizosphe of Reduce on Reducti a Surface (Well Data blain in Re ches): ches): ches):	(B14) dor (C1) eres on Liv ed Iron (C4) on in Tiller (C7) (D9) emarks)	H) d Soils (C6	Second Su Dra Dry Cra (C3) Sa Stu FA	ary Indicators face Soil Cra ainage Patterr r-Season Wat ayfish Burrows curation Visible inted or Stress omorphic Pos C-Neutral Tes	(minimum of twocks (B6) as (B10) er Table (C2) as (C8) e on Aerial Imaged Plants (D1) ition (D2)	wo requir
emarks:	Type: Rock Depth (inches): 12 emarks: arge rock resista TDROLOGY etland Hydrology Indi imary Indicators (minim Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5) Inundation Visible on Sparsely Vegetated (B1) etla dobservations: urface Water Present? aturation Present?	Ecators: num of one 2) B2) Aerial Ima Concave S Yes	agery (B7) Surface (B8) S No _	check all that ap Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck Gauge or Other (Exp	ined Leav auna (B13 atic Plants Sulfide Oo Rhizosphe of Reduce on Reducti a Surface (Well Data blain in Re ches): ches): ches):	(B14) dor (C1) eres on Liv ed Iron (C4) on in Tiller (C7) (D9) emarks)	H) d Soils (C6	Second Su Dra Dry Cra (C3) Sa Stu FA	ary Indicators face Soil Cra ainage Patterr r-Season Wat ayfish Burrows curation Visible inted or Stress omorphic Pos C-Neutral Tes	(minimum of twocks (B6) as (B10) er Table (C2) as (C8) e on Aerial Imaged Plants (D1) ition (D2)	wo requir
emarks:	Type: Rock Depth (inches): 12 emarks: arge rock resista TDROLOGY Tetland Hydrology India imary Indicators (minim Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5) Inundation Visible on Sparsely Vegetated (Celd Observations: Cater Table Present? Caturation Present?	Ecators: Solution of one 2) B2) Aerial Ima Concave S Yes Yes	agery (B7) Surface (B8) S No _ S No _ S No _	check all that ag Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck Gauge or Other (Exp	ined Leave auna (B13 atic Plants Sulfide Oc Rhizosphe of Reduce on Reducti a Surface (Well Data blain in Reches): ches): ches]	(B14) (B14) dor (C1) eres on Liv ed Iron (C4) con in Tiller (C7) (D9) emarks)	d Soils (C6	Second Su Dra Dra Cra (C3) Sa Stu FA	ary Indicators face Soil Cra ainage Patterr r-Season Wat ayfish Burrows curation Visible inted or Stress omorphic Pos C-Neutral Tes	(minimum of twocks (B6) as (B10) er Table (C2) as (C8) e on Aerial Imaged Plants (D1) ition (D2)	wo requir
	Type: Rock Depth (inches): 12 Emarks: Arge rock resista DROLOGY etland Hydrology Indi imary Indicators (minim Surface Water (A1) High Water Table (A) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B) Iron Deposits (B5) Inundation Visible on Sparsely Vegetated (B1) Beld Observations: Urface Water Present? Atturation Present? Atturation Present? Atturation Present? Acturation Present? Acturatio	Ecators: Solution of one 2) B2) Aerial Ima Concave S Yes Yes	agery (B7) Surface (B8) S No _ S No _ S No _	check all that ag Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck Gauge or Other (Exp	ined Leave auna (B13 atic Plants Sulfide Oc Rhizosphe of Reduce on Reducti a Surface (Well Data blain in Reches): ches): ches]	(B14) (B14) dor (C1) eres on Liv ed Iron (C4) con in Tiller (C7) (D9) emarks)	d Soils (C6	Second Su Dra Dra Cra (C3) Sa Stu FA	ary Indicators face Soil Cra ainage Patterr r-Season Wat ayfish Burrows curation Visible inted or Stress omorphic Pos C-Neutral Tes	(minimum of twocks (B6) as (B10) er Table (C2) as (C8) e on Aerial Imaged Plants (D1) ition (D2)	wo requir
	Type: Rock Depth (inches): 12 Emarks: Arge rock resista DROLOGY etland Hydrology Indi imary Indicators (minim Surface Water (A1) High Water Table (A) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B) Iron Deposits (B5) Inundation Visible on Sparsely Vegetated (B1) Beld Observations: Urface Water Present? Atturation Present? Atturation Present? Atturation Present? Acturation Present? Acturatio	Ecators: Solution of one 2) B2) Aerial Ima Concave S Yes Yes	agery (B7) Surface (B8) S No _ S No _ S No _	check all that ag Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck Gauge or Other (Exp	ined Leave auna (B13 atic Plants Sulfide Oc Rhizosphe of Reduce on Reducti a Surface (Well Data blain in Reches): ches): ches]	(B14) (B14) dor (C1) eres on Liv ed Iron (C4) con in Tiller (C7) (D9) emarks)	d Soils (C6	Second Su Dra Dra Cra (C3) Sa Stu FA	ary Indicators face Soil Cra ainage Patterr r-Season Wat ayfish Burrows curation Visible inted or Stress omorphic Pos C-Neutral Tes	(minimum of twocks (B6) as (B10) er Table (C2) as (C8) e on Aerial Imaged Plants (D1) at (D5)	wo requir

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Midwater BESS	City/Co	City/County: Freeborn County Sampling Date: 2024-04-29					
Applicant/Owner: Spearmint Renewable Development		State: Minnesota Sampling Point: WB-01A-UF					
Investigator(s): M. Stone, C. Gunn	Sectio	Section, Township, Range: Sec 08 T101N R020W					
Landform (hillslope, terrace, etc.): Shoulder		Local reli	ef (concave, convex, none): Convex				
Slope (%): <u>0-2</u> Lat: <u>43.559782</u>							
Soil Map Unit Name: Pits, sand and gravel							
Are climatic / hydrologic conditions on the site typical for this time of							
Are Vegetation, Soil, or Hydrology significa	-						
Are Vegetation, Soil, or Hydrology naturally			needed, explain any answers in Remarks.)				
SUMMARY OF FINDINGS – Attach site map show							
		piiiig poiii	installation, trailesotte, important routeros, etc.				
Hydrophytic Vegetation Present? Yes No		Is the Sampl	ed Area				
Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No		within a Wet	and? Yes No				
Remarks:							
VEGETATION – Use scientific names of plants.							
Absol Tree Stratum (Plot size:30)		inant Indicato ies? Status					
1			 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A) 				
2.			Total Number of Dominant				
3			Species Across All Strata: 2 (B)				
4			Percent of Dominant Species				
5			That Are OBL, FACW, or FAC: 100.00 (A/B)				
Sapling/Shrub Stratum (Plot size: 15)	= Tota	ll Cover	Prevalence Index worksheet:				
1. <u>Salix nigra</u>	<u>) Y</u>	OBL	Total % Cover of: Multiply by:				
2			OBL species <u>10.00</u> x 1 = <u>10.00</u>				
3			FACW species10.00 x 2 =20.00				
4			FAC species $70.00 \times 3 = 210.00$				
5			FACU species x 4 =0.00				
Herb Stratum (Plot size:5)	<u>.0</u> = Tota	ll Cover	UPL species 0.00 x 5 = 0.00				
	0 Y	FAC	Column Totals: 90.00 (A) 240.00 (B)				
2. <u>Phalaris arundinacea</u> 10	<u> </u>	FACV	Prevalence Index = B/A = 2.67				
3			Hydrophytic Vegetation Indicators:				
4			1 - Rapid Test for Hydrophytic Vegetation				
5			_				
6			-				
7			 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 				
8			Problematic Hydrophytic Vegetation ¹ (Explain)				
10			-				
80.	.0 = Tota		¹Indicators of hydric soil and wetland hydrology must				
Woody Vine Stratum (Plot size: 30)			be present, unless disturbed or problematic.				
1			Hydrophytic				
2			_ Vegetation Present? Yes <u>✔</u> No				
0	= Tota	l Cover	133				
Remarks: (Include photo numbers here or on a separate sheet.)							

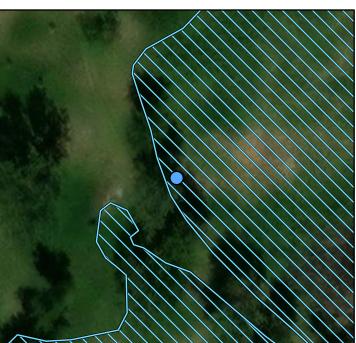
SOIL Sampling Point: WB-01A-UP

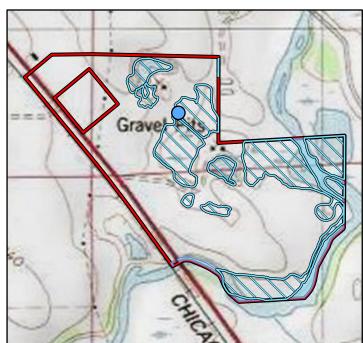
Profile Des	cription: (D	escribe	to the dept	h needed to docu	ment the i	indicator	or confir	rm the absence	e of indicators.)		
Depth		Matrix	0/		ox Feature		Loc ²		Damada		
(inches)	Color (r		<u>%</u>	Color (moist)		Type ¹	LOC_	Texture	Remarks		
0-2	<u>10YR</u>	3/2	100		_	· ——			Roots in upper 2in.		
2-26	<u>10YR</u>	4/3	100					<u>LS</u>	Silty inclusions		
									. <u> </u>		
			-		_			- 			
17		D D		Dados ad Matrico M				21 -	anting Di Daga Lining M Matrix		
	Indicators:	1, D=Dep	letion, Rivi=	Reduced Matrix, M	S=Masked	Sand Gra	ains.		cation: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :		
Histoso				Sandy	Gleved Ma	atrix (S4)			Prairie Redox (A16)		
	pipedon (A2)			Redox (S5						
	listic (A3)	,			d Matrix (S				Surface (S7)		
	en Sulfide (A				Mucky Mir				Manganese Masses (F12)		
	d Layers (A5	5)		-	Gleyed Ma			Very Shallow Dark Surface (TF12) Other (Explain in Remarks)			
	uck (A10) ed Below Dar	rk Surface	- (Δ11)		ed Matrix (Dark Surfa	,		Other	(Explain in Remarks)		
	ark Surface		5 (A11)		ed Dark Su	. ,		3Indicator	s of hydrophytic vegetation and		
	Mucky Miner				Depressio				nd hydrology must be present,		
	ucky Peat or							unless	s disturbed or problematic.		
Restrictive	Layer (if ob	served):									
Depth (in	nches):							Hydric Soi	I Present? Yes No <u>V</u>		
Remarks:											
HYDROLC)GV										
	drology Ind	licators:									
_			ne is requir	ed; check all that a	nnlv)			Second	ary Indicators (minimum of two required)		
	Water (A1)		ric io regain	-	ained Leav	es (R9)			face Soil Cracks (B6)		
. —	ater Table (A			Aquatic F		` ,			nage Patterns (B10)		
Saturati		,		True Aqua					/-Season Water Table (C2)		
·	Marks (B1)			Hydrogen	Sulfide O	dor (C1)		-	ayfish Burrows (C8)		
Sedime	nt Deposits	(B2)		Oxidized	Rhizosphe	res on Liv	ing Roots	s (C3) Sat	turation Visible on Aerial Imagery (C9)		
Drift De	posits (B3)			Presence	of Reduce	ed Iron (C4	!)	Stu	nted or Stressed Plants (D1)		
					Recent Iron Reduction in Tilled Soils (C6				omorphic Position (D2)		
Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9)							<u>✓</u> FA	C-Neutral Test (D5)			
				-		. ,					
	ly Vegetated	Concave	Surface (E	38) Other (Ex	plain in Re	emarks)	1				
Field Obser		.,									
	ter Present?			No <u>v</u> Depth (ir							
Water Table				No _ v Depth (ir							
Saturation F	resent? pillary fringe		es N	No <u>v</u> Depth (ir	iches):		_ We	tland Hydrolog	gy Present? Yes No 🗹		
			gauge, mo	nitoring well, aerial	photos, pr	evious ins	pections), if available:			
Remarks:											
None ob	served.										
]											

Midwater BESS Project Delineation Site Photograph









Map Document N;0046089.001 GISI, ArcProi/R0046089 040 WetlandPhotologs. 202405101/R0046089 040 WetlandPhotologs. 202405101/R0046089 040 WetlandPhotologs. 20240510.aprx 5/10/2024 1;23 PM MMQuadu

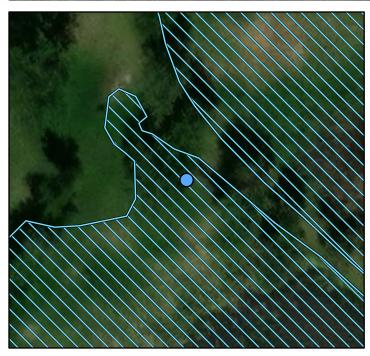
Project/Site: Midwater BESS	City/Co	ounty:	Freebor	n County Sampling Date: 2024-04-29		
Applicant/Owner: Spearmint Renewable Development	State: Minnesota Sampling Point: WB-03-wet					
Investigator(s): M. Stone, C. Gunn	Sectio	n, Tov	vnship, Rar	nge: sec 08 T101N R020W		
Landform (hillslope, terrace, etc.): Depression		L	ocal relief	(concave, convex, none): Concave		
Slope (%): <u>0-2</u> Lat: <u>43.559195</u>	Long:	-93.2	265775	Datum: WGS84		
Soil Map Unit Name: Pits, sand and gravel						
Are climatic / hydrologic conditions on the site typical for this time of						
Are Vegetation, Soil, or Hydrology significant	•			Normal Circumstances" present? Yes No		
Are Vegetation, Soil, or Hydrology naturally p				eded, explain any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map showing						
Hydrophytic Vegetation Present? Yesv_ No						
Hydric Soil Present? Yes No			Sampled			
Wetland Hydrology Present? Yes No		witni	n a Wetlan	nd? Yes <u>/</u> No		
Remarks:						
VEGETATION – Use scientific names of plants.						
Absolut			Indicator	Dominance Test worksheet:		
· · · · · · · · · · · · · · · ·	er Spec	ies?		Number of Dominant Species That Are OBL. FACW. or FAC: 2 (A)		
1. <u>Populus deltoides</u> 70			<u>FAC</u>	That Are OBL, FACW, or FAC: (A)		
2. 3.				Total Number of Dominant Species Across All Strata: 2 (B)		
4				Percent of Dominant Species		
5) = Tota	al Cov	er	That Are OBL, FACW, or FAC:100.00 (A/B)		
Sapling/Shrub Stratum (Plot size:15)			.	Prevalence Index worksheet:		
1				Total % Cover of: Multiply by:		
2				OBL species <u>20.00</u> x 1 = <u>20.00</u>		
3				FACW species 90.00 x 2 = 180.00 FAC species 70.00 x 3 = 210.00		
4.				FACU species 0.00 x 4 = 0.00		
	= Tota		er	UPL species $0.00 \times 5 = 0.00$		
Herb Stratum (Plot size: 5)			.	Column Totals: 180.00 (A) 410.00 (B)		
1. Phalaris arundinacea 80			FACW			
2. <u>Typha X glauca</u> 20			OBL	Prevalence Index = B/A = 2.28		
3. <u>Carex spp.</u> 10				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation		
4				✓ 2 - Dominance Test is >50%		
5				✓ 3 - Prevalence Index is ≤3.0 ¹		
7				4 - Morphological Adaptations ¹ (Provide supporting		
8.				data in Remarks or on a separate sheet)		
9				Problematic Hydrophytic Vegetation ¹ (Explain)		
10				4		
Woody Vine Stratum (Plot size: 30)	<u>0</u> = Tota	al Cov	er	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
1				Hydrophytic		
2				Vegetation Present? Yes <u>✓</u> No		
0	= Tota	al Cov	er	riesent: Tes V NO		
Remarks: (Include photo numbers here or on a separate sheet.)						

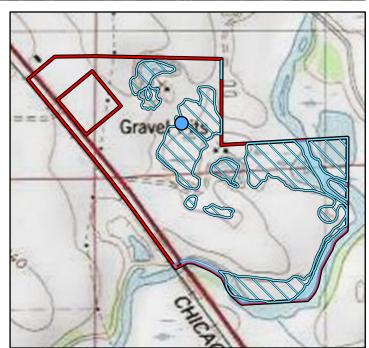
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features 0-2 10YR 2/1 100 2-4 10YR 2/1 400 2-4 10YR 2/2 98 7.5YR 4/6 2 C PL MMI Sand included 4-12 10YR 3/2 70 7.5YR 5/6 5 C M/PL MMI Sand included 4-12 10YR 3/2 70 7.5YR 5/6 5 C M/PL MMI Sand included 4-12 10YR 3/2 40 2.5YR 3/6 5 C M/PL SC 10YR 2/1 45 7.5YR 4/6 10 C M/PL SC 10YR 2/1 41 45 7.5YR 4/6 10 C M/PL SC 10YR 2/1 41 45 7.5YR 4/6 10 C M/PL SC 10YR 2/1 41 45 7.5YR 4/6 10 C M/PL SC 10YR 2/1 41 45 7.5YR 4/6 10 C M/PL SC 10YR 2/1 41 45 7.5YR 4/6 10 C M/PL SC 10YR 2/1 41 45 7.5YR 4/6 10 C M/PL SC 10YR 2/1 41 45 7.5YR 4/6 10 C M/PL SC 10YR 2/1 41 40 C M/PL SC 10YR 2/	Depth (inches)	cription: (D	a a a will a	to the de							
Gooder	(inches)	(=	escribe	to the dep	pth needed	to docum	ent the i	ndicator	or confirm	the absence	of indicators.)
0-2 10YR 2/1 100 2-4 10YR 2/2 98 7.5YR 4/6 2 C PL MMI Sand included 4-12 10YR 3/2 70 7.5YR 5/6 5 C M/PL MMI Sandy loam inclusions 10YR 2/2 25 MMI MMI 10YR 3/2 40 2.5YR 3/6 5 C M/PL SC M/PL	0-2								. 2		
2-4 10YR 2/2 98 7.5YR 4/6 2 C PL MMI Sand included 4-12 10YR 3/2 70 7.5YR 5/6 5 C M/PL MMI Sandy loam inclusions 10YR 2/2 25 12-24 10YR 3/2 40 2.5YR 3/6 5 C M/PL SC 10YR 2/1 45 7.5YR 4/6 10 C M/PL SC 10YR 2/1 45 7.5YR 4/6 10 C M/PL SC 10YR 2/1 45 7.5YR 4/6 10 C M/PL SC 10YR 2/1 45 7.5YR 4/6 10 C M/PL SC 17ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		Color (r	-		Color (r	noist)	%	Type'	Loc		
4-12 10YR 3/2 70 7.5YR 5/6 5 C M/PL MMI Sandy loam inclusions 10YR 2/2 25	0.4	<u>10YR</u>	2/1	100						<u>MMI</u>	Roots in upper 2in.
10YR 2/2 25 12-24 10YR 3/2 40 2.5YR 3/6 5 C M/PL SC 10YR 2/1 45 7.5YR 4/6 10 C M/PL SC 10YR 2/1 45 7.5YR 4/6 10 C M/PL SC 10YR 2/1 45 7.5YR 4/6 10 C M/PL SC 17ype: C-Concentration, D-Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 1 1	<u> </u>	10YR	2/2	98	7.5YR	4/6	2	C	<u> </u>	MMI	Sand included
12-24	4-12	10YR	3/2	_70	7.5YR	5/6	5	C	M/PL	MMI	Sandy loam inclusions
12-24		10YR	2/2	25						MMI	•
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stripped Matrix (S6) Hydrogen Sulfide (A4) Stripped Matrix (S6) Stripped Matrix (S6) Hydrogen Sulfide (A4) Stripped Matrix (S6) Learny Mucky Mineral (F1) Learny Gleged Matrix (F2) Z 2 cm Muck (A10) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (F3) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (F3) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Peptited Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: Depth (inches): Depth (inches): Depth (inches): Wetand Hydrology Indicators: Primary Indicators (minimum of one is required: check all that apply) Secondary Indicators (minimum of two required): Hydric Soil Present? Yes ✓ No Remarks: HYDROLOGY Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Aquatic Fauna (B13) Presence of Reduced Iron (C4) Sediment Deposits (B3) Presence of Reduced Iron (C4) Aquatic Fauna (B13) Aquatic Fauna (B13) Presence of Reduced Iron (C4) Sediment Deposits (B3) Presence of Reduced Iron (C4) Aquatic Fauna (B13) Aqual Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Spansely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes ✓ No Depth (inches): United Soil Present? Yes ✓ No Depth (inches): United Soil Present? Yes ✓ No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	12-24	·	3/2		2.5YR	3/6	5		M/PI	SC	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosel (A1) Histosel (A1) Histosel (A2) Histosel (A2) Black Histo (A3) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Thick Dark Surface (A1) Depleted Below Dark Surface (A1) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: Depleted Mark (F2) Depleted Mark (F2) Depleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: Depleth (inches): Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Surface Water (A1) Surface (F2) Water Fable (A2) Aquatic Fauna (B13) Darinage Patterns (B10) Surface Soil Cracks (B6) Dark Surface (F2) No Remarks: HYDROLOGY Wetand Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Surface Soil Cracks (B6) Darinage Patterns (B10) Surface Soil Cracks (B6) Surface Soil Cra		· ·							<u>, </u>		
Hydric Soil Indicators: Histosol (A1) Histosol (A2) Black Histosol (A2) Sandy Redox (S5) Black Histo (A3) Stripped Matrix (S6) Hydrogen Sulfide (A4) Stripped Matrix (S6) Loamy Gleyed Matrix (S6) Phydrogen Sulfide (A4) Stripped Matrix (F2) Depleted Below Dark Surface (TF12) Thick Dark Surface (A12) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sem Mucky Peat or Peat (S3) Redox Depressions (F8) HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B3) Presence of Reduced Iron (C4) Sediment Deposits (B3) Presence of R		1011	<u> </u>		7.511	4/0			IVI/I L		
Hydric Soil Indicators: Histosol (A1) Histosol (A2) Black Histosol (A2) Sandy Redox (S5) Black Histo (A3) Stripped Matrix (S6) Hydrogen Sulfide (A4) Stripped Matrix (S6) Loamy Gleyed Matrix (S6) Phydrogen Sulfide (A4) Stripped Matrix (F2) Depleted Below Dark Surface (TF12) Thick Dark Surface (A12) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sem Mucky Peat or Peat (S3) Redox Depressions (F8) HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B3) Presence of Reduced Iron (C4) Sediment Deposits (B3) Presence of R	1 _{T. max} C=C		D-D	lation DM	——————————————————————————————————————	Antoire MC				21.0	action. DI -Dans Lining M-Matrix
Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) Histic Epipedon (A2) Sandy Redox (S5) Dark Surface (S7) Black Histic (A3) Surface (S7) Hydrogen Sulfide (A4) ∠ Loamy Mucky Mineral (F1) Iron-Managese Masses (F12) ✓ 2 cm Muck (A10) Depleted Matrix (F3) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) ✓ 2 sandy Mucky Mineral (S1) Redox Dark Surface (F7) ✓ 3 sandy Mucky Mineral (S1) Redox Dark Surface (F7) ✓ 5 cm Mucky Peat or Peat (S3) Redox Depressions (F8) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) ✓ Water-Stained Leaves (B9) Surface (S1) Drainage Patterns (B10) Saturation (A3) True Aquatic Plants (B14) Drainage Patterns (B10) Sufface Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Advanta (Phydrogen Sulfide Odor (C1) Sediment Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Iron Deposits (B3) Presence of Reduced Iron (C4) Sunted or Stressed Plants (D1) Iron Deposits (B5) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No Depth (inches): 10 Wetland Hydrology Present? Yes No Depth (inches): 10 Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			і, р=рер	ielion, Riv	i=Reduced i	viatrix, ivio	-waskeu	Sand Gr	airis.		
Histic Epipedon (A2) Black Histic (A3) — Stripped Matrix (S6) — Hydrogen Sulfide (A4) — Loamy Gleyed Matrix (F2) — Very Shallow Dark Surface (TF12) — Depleted Below Dark Surface (A11) — Depleted Below Dark Surface (A11) — Pepleted Below Dark Surface (A11) — Redox Dark Surface (F6) — Thick Dark Surface (A12) — Depleted Dark Surface (F7) — Sandy Mucky Mineral (S1) — Sed Mucky Mineral (S1) — Redox Dark Surface (F8) — To m Mucky Peat or Peat (S3) — Redox Depressions (F8) — Redox Depressions (F8) — Som Mucky Peat or Peat (S3) — Redox Depressions (F8) — Som Mucky Peat or Peat (S3) — Redox Depressions (F8) — Pepth (inches): — Depth (inches): — Surface Water (A1) — Water Stained Leaves (B9) — Surface Water (A1) — Surface Water (A1) — Water Stained Leaves (B9) — Surface Water (A1) — Pry-Season Water Table (C2) — Aquatic Fauna (B13) — Drainage Patterns (B10) — Saturation (A3) — True Aquatic Plants (B14) — Dry-Season Water Table (C2) — Orifi Deposits (B2) — Oxidized Rhizospheres on Living Roots (C3) — Saturation Visible on Aerial Imagery (C9) — Inchesited (B4) — Recent Iron Reduction in Tilled Solis (C6) — Saturation Visible on Aerial Imagery (C9) — Inchesited (B4) — Recent Iron Reduction in Tilled Solis (C6) — Sparsely Vegetated Concave Surface (B8) — Other (Explain in Remarks) Field Observations: Surface Water Present? — Yes No Depth (inches): — Under Table Present? — Yes No Depth (inches): — Under Could Hydrology Present? — Yes No Depth (inches): — Under Could Hydrology Present? — Yes No Depth (inches): — 10	•					Sandy G	leved Ma	trix (S4)			· ·
Black Histic (A3)		, ,)								
Stratified Layers (A5)			,		_						` '
✓ 2 cm Muck (A10)						-	-				
Depleted Below Dark Surface (A11)		-	5)							•	, ,
Thick Dark Surface (A12) Depleted Dark Surface (F7)			k Surfac	- (Δ11)		•	•	•		Other	(Explain in Remarks)
Sandy Mucky Mineral (S1) Redox Depressions (F8) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches):				C (7111)				` ')	3Indicator	s of hydrophytic vegetation and
Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes V No Remarks: Hydric Soil Present? Yes V No Recondary Indicators (minimum of two requinestive for for two requinestive for two requinestive for for two requinestive for for two requinestive for for for two requinestive for	✓ Sandy M	lucky Miner	al (S1)								
Type:				-						unless	s disturbed or problematic.
Remarks: Hydric Soil Present? Yes \(\frac{\su}{\chi} \) No	Restrictive I	Layer (if ob	served):								
HYDROLOGY Wetland Hydrology Indicators:											_
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Aquatic Fauna (B13) Drainage Patterns (B10) Aquatic Fauna (B13) Drainage Patterns (B10) Aquatic Pauna (B13) Drainage Patterns (B10) Nater Marks (B1) Mater Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Adgal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes ✓ No Depth (inches): Mater Table Present? Yes ✓ No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Depth (inc	ches):								Hydric Soi	I Present? Yes <u>✓</u> No
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Water-Stained Leaves (B9) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Fauna (B13) Drainage Patterns (B10) Saturation (A3)											
Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Marks (B1) Surface Water (A1) Water-Stained Leaves (B9) Aquatic Fauna (B13) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			l' 4								
Surface Water (A1)	_										
High Water Table (A2)		•	mum of o	ne is requ							
Water Marks (B1)		` '	.0)					` '			` '
		•	(2)								
Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		, ,								-	
Drift Deposits (B3)	· · · · · · · · · · · · · · · · · · ·	, ,	(B2)						ina Roots (
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): No Saturation Present? Yes No Saturat			()						_	· · —	
Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) 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) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			B4)								
Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Algal Ma	oosits (B5)			-	hin Muck	Surface (C7)			
Surface Water Present? Yes Nov _ Depth (inches): Water Table Present? Yes _v No Depth (inches): Saturation Present? Yes _v No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	<u> </u>				<u> </u>	I III I IVIGOR		. ,		<u>/</u> FA	C-Neutral Test (D5)
Surface Water Present? Yes Nov _ Depth (inches): Water Table Present? Yes _v _ No Depth (inches): Saturation Present? Yes _v _ No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Iron Dep	on Visible o	n Aerial I	magery (E			,	,		<u>./</u> FA0	C-Neutral Test (D5)
Water Table Present? Yes _v No Depth (inches):	Iron Dep				37) G	Sauge or V	Vell Data	(D9)		<u>/</u> FA	C-Neutral Test (D5)
Saturation Present? Yes Vo Depth (inches): 10 Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Iron Dep Inundation Sparsely	y Vegetated			37) G	Sauge or V	Vell Data	(D9)		<u>/</u> FA0	C-Neutral Test (D5)
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Iron Dep Inundation Sparsely Field Observ	y Vegetated vations:	Concave Y	e Surface	87) 6 (B8) 0	Sauge or V Other (Expl	Vell Data lain in Re hes):	(D9) marks)	_	<u>v</u> FA(C-Neutral Test (D5)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Iron Dep Inundation Sparsely Field Observing Surface Water	vations: er Present?	Concave Y Y	eses	87) G (B8) C No	Sauge or V Other (Expl Depth (inc Depth (inc	Vell Data lain in Re hes):	(D9) marks)			
	Iron Dep Inundation Sparsely Field Obsert Surface Water Water Table Saturation Per	y Vegetated vations: er Present? Present? resent?	Concave Y Y Y	eses	87) G (B8) C No	Sauge or V Other (Expl Depth (inc Depth (inc	Vell Data lain in Re hes):	(D9) marks)	Wetla		
Remarks:	Iron Dep Inundation Sparsely Field Obsert Surface Water Water Table Saturation Policion	vations: er Present? Present? resent? pillary fringe	Concave Y Y Y Y	es es es	No	Sauge or V Other (Expl Depth (inc Depth (inc	Vell Data lain in Re hes): hes): hes):	(D9) marks) 14 10		and Hydrolog	
	Iron Dep Inundation Sparsely Field Obsert Surface Water Water Table Saturation Politiculates cap	vations: er Present? Present? resent? pillary fringe	Concave Y Y Y Y	es es es	No	Sauge or V Other (Expl Depth (inc Depth (inc	Vell Data lain in Re hes): hes): hes):	(D9) marks) 14 10		and Hydrolog	
	Iron Dep Inundati Sparsely Field Obser Surface Wate Water Table Saturation P (includes cap Describe Rec	vations: er Present? Present? resent? pillary fringe	Concave Y Y Y Y	es es es	No	Sauge or V Other (Expl Depth (inc Depth (inc	Vell Data lain in Re hes): hes): hes):	(D9) marks) 14 10		and Hydrolog	
	Iron Dep Inundati Sparsely Field Obser Surface Water Water Table Saturation P (includes cap Describe Rec	vations: er Present? Present? resent? pillary fringe	Concave Y Y Y Y	es es es	No	Sauge or V Other (Expl Depth (inc Depth (inc	Vell Data lain in Re hes): hes): hes):	(D9) marks) 14 10		and Hydrolog	
	Iron Dep Inundati Sparsely Field Obser Surface Water Water Table Saturation P (includes cap Describe Rec	vations: er Present? Present? resent? pillary fringe	Concave Y Y Y Y	es es es	No	Sauge or V Other (Expl Depth (inc Depth (inc	Vell Data lain in Re hes): hes): hes):	(D9) marks) 14 10		and Hydrolog	

Midwater BESS Project Delineation Site Photograph









Map Document N;0046089.001 GISI, ArcProi/R0046089 040 WetlandPhotologs. 202405101/R0046089 040 WetlandPhotologs. 202405101/R0046089 040 WetlandPhotologs. 20240510.aprx 5/10/2024 1;23 PM MMQuadu

Project/Site: Midwater BESS	_ City/County: Freebox	n County Sampling Date: 2024-04-29
Applicant/Owner: Spearmint Renewable Development		State: Minnesota Sampling Point: WB-04-wet
Investigator(s): M. Stone, C. Gunn	Section, Township, Ra	nge: sec 08 T101N R020W
Landform (hillslope, terrace, etc.): Depression	Local relief	(concave, convex, none): Concave
Slope (%): <u>0-2</u> Lat: <u>43.558956</u>		
Soil Map Unit Name: Pits, sand and gravel		
Are climatic / hydrologic conditions on the site typical for this time of		
Are Vegetation, Soil, or Hydrology significan		'Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally	-	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing		
Attach site map shown		ocations, transects, important reatures, etc.
Hydrophytic Vegetation Present? Yes _ ✓ No		Area
Hydric Soil Present? Yes No	i wiinin a weiiai	nd? Yes <u>/</u> No
Wetland Hydrology Present? Yes No Remarks:	_	
Remarks.		
VEGETATION – Use scientific names of plants.		
Absolu		Dominance Test worksheet:
	er Species? Status	Number of Dominant Species
	Y FAC	That Are OBL, FACW, or FAC:2 (A)
2		Total Number of Dominant Species Across All Strata: 2 (B)
4		()
5.	<u> </u>	Percent of Dominant Species That Are OBL, FACW, or FAC:
) = Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species 0.00 x 1 = 0.00 FACW species 90.00 x 2 = 180.00
3		FAC species 50.00 x 3 = 150.00
5		FACU species 0.00 x 4 = 0.00
0	= Total Cover	UPL species 0.00 x 5 = 0.00
Herb Stratum (Plot size:5)		Column Totals: <u>140.00</u> (A) <u>330.00</u> (B)
-	Y FACW	December on to down D/A 2 26
2. <u>Carex spp.</u> 10		Prevalence Index = B/A = 2.36 Hydrophytic Vegetation Indicators:
3		1 - Rapid Test for Hydrophytic Vegetation
4		✓ 2 - Dominance Test is >50%
5		✓ 3 - Prevalence Index is ≤3.0 ¹
7		4 - Morphological Adaptations ¹ (Provide supporting
8		data in Remarks or on a separate sheet)
9.		Problematic Hydrophytic Vegetation ¹ (Explain)
10		
90.0	_ = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: 30		be present, unless distalbed of problematic.
1		Hydrophytic
2		Vegetation Present? Yes No
0	= Total Cover	
Remarks: (Include photo numbers here or on a separate sheet.)		

SOIL Sampling Point: WB-04-wet

OIL Profile Desc	rintion: (D	escribe to	o the den	th needed	to docum	nent the i	ndicator	or confirn	the absenc	e of indicators.)
Depth		Matrix	o the dep	iii iieeaca		x Feature		or commi	i tile abselle	e of maleators.)
(inches)	Color (r	%	Color (ı		<u>%</u>	Type ¹	Loc ²	Texture	Remarks	
0-4	10YR	3/1	100						MMI	Roots in upper 2in.
4-18	10YR	3/1	85	5YR	3/4	5		M/PL	MMI	Sand and loam inclusions
- 10	1011	J/ I						· ·		Sand and loan inclusions
				5YR	4/6	10	<u>C</u>	M/PL	MMI	
18-24	N	2.5/0	98	<u>7.5YR</u>	4/6	2	<u> </u>	M	SIL	
Гуре: С=Со	ncentration	n, D=Deple	etion, RM=	Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.	² Lo	ocation: PL=Pore Lining, M=Matrix.
ydric Soil I	ndicators:								Indicator	s for Problematic Hydric Soils ³ :
_ Histosol	. ,				_ Sandy C	Sleyed Ma	atrix (S4)		Coas	t Prairie Redox (A16)
	ipedon (A2	2)			•	Redox (S5	,		— Dark	Surface (S7)
Black His		.4\				Matrix (S	,		Iron-I	Manganese Masses (F12)
	n Sulfide (A l Layers (A				Loamy N	Sleyed Ma				Shallow Dark Surface (TF12)
0 a a a mou	-	3)			-	d Matrix (, ,		-	r (Explain in Remarks)
 Depleted	l Below Dai	rk Surface	(A11)			oark Surfa				
Thick Da	rk Surface	(A12)					ırface (F7)	³ Indicato	rs of hydrophytic vegetation and
-	lucky Miner			_	_ Redox D	Depressio	ns (F8)			nd hydrology must be present,
5 cm Mu Restrictive L	cky Peat or)						unles	s disturbed or problematic.
esuictive L	• •	,								
Type:										
Type:	hoe).								Hydric So	il Procent? Ves V No
Depth (inc	ches):								Hydric So	il Present? Yes 🗸 No
Depth (inc	ches):								Hydric So	il Present? Yes 🗸 No
Depth (inc									Hydric So	il Present? Yes 🗸 No
Depth (inconstruction) Remarks:	GY								Hydric So	il Present? Yes 🗸 No
Depth (inconstruction)	GY drology Inc	licators:			all that ap	ply)				il Present? Yes <u>V</u> No
Depth (income property of the	GY drology Inc	licators: mum of or		red; check	Vater-Stai	ned Leav	` ,		Second	
Depth (incomercial property) /DROLOG /etland Hydromary Indicomercial property / High War	GY Irology Inc ators (minin Water (A1) ter Table (A	licators: mum of or		red; check <u>~</u> \ /	Vater-Stai Aquatic Fa	ned Leav una (B13)		<u>Secono</u> Su Dr:	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10)
Depth (inclination) Depth (in	GY drology Inc ators (minin Water (A1) ter Table (A on (A3)	licators: mum of or		red; check \(\bullet \)	Vater-Stai Aquatic Fa Frue Aqua	ned Leav una (B13 tic Plants) (B14)		<u>Second</u> Su Dra Dra	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2)
Depth (incommends: "DROLOG" Tetland Hydrimary Indicommends Indicomme	GY drology Inc ators (minin Water (A1) ter Table (A on (A3) arks (B1)	licators: mum of or		red; check / / 1 1	Vater-Stai Aquatic Fa Frue Aqua Hydrogen	ned Leav una (B13 tic Plants Sulfide O) (B14) dor (C1)		Second Superior Super	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8)
Depth (incomercial property) Post of the company o	GY drology Inc. ators (mining Water (A1) ter Table (A on (A3) arks (B1) tt Deposits	licators: mum of or		red; check	Nater-Stai Aquatic Fa Frue Aqua Hydrogen S Dxidized R	ned Leav una (B13 tic Plants Sulfide Oct thizosphe) (B14) dor (C1) res on Liv	ing Roots	Second Su Dri Dri Cri (C3) Sa	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9)
Depth (incomercial property) //DROLOG //etland Hydromary Indicomercial property // High War // Saturation // Water Mar // Sedimen // Drift Dep	GY drology Inc. eators (minin Water (A1) ter Table (A on (A3) arks (B1) arks (B1) t Deposits oosits (B3)	licators: mum of on A2) (B2)		red; check v \ / 1 1 6 6	Vater-Stai Aquatic Fa Frue Aqua Hydrogen S Dxidized R Presence c	ned Leav una (B13 tic Plants Sulfide Oc thizosphe) (B14) dor (C1) res on Liv ed Iron (C4	4)	Second Su Dr: Cr: Cr: (C3) <u>~_</u> Sa St:	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)
/DROLOG //DROLOG //Etland Hydrimary Indic Surface V /_ High War /_ Saturatio Water Mar Sedimen Drift Dep Algal Mar	GY Irology Inc. ators (minin Water (A1) ter Table (A on (A3) arks (B1) arks (B1) tt Deposits osits (B3) tt or Crust (I	licators: mum of on A2) (B2)		red; check \ F F	Water-Stai Aquatic Fa Frue Aqua Hydrogen Dxidized R Presence of	ned Leav una (B13 tic Plants Sulfide Oo thizosphe of Reduce n Reducti) (B14) dor (C1) res on Liv ed Iron (C4 on in Tille	_	Second Su Dra Dra Cra (C3) Sa Stu Stu	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2)
/DROLOG //PROLOG //PR	GY Irology Inc. ators (minin Water (A1) ter Table (A on (A3) arks (B1) at Deposits sosits (B3) t or Crust (I osits (B5)	licators: mum of or A2) (B2) B4)	ne is requi	red; check V F F 1	Water-Stai Aquatic Fa Frue Aqua Hydrogen S Dxidized R Presence o Recent Irol	ned Leav una (B13 tic Plants Sulfide Oo thizosphe of Reduce n Reducti Surface ((B14) (B14) dor (C1) res on Liv ed Iron (C4 on in Tille	4)	Second Su Dra Dra Cra (C3) Sa Stu Stu	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)
Depth (incomments: /DROLOG /etland Hyderimary Indicomments / High War / Saturation Water May Sedimen Drift Dep Algal Ma Iron Dep	GY Irology Inc. ators (mining Water (A1) ter Table (A1) arks (B1) arks (B1) arks (B3) t or Crust (I1) osits (B5) on Visible o	licators: mum of or A2) (B2) B4) n Aerial In	ne is requi	red; check V F F 17 F	Water-Stai Aquatic Fa Frue Aqua Hydrogen S Dxidized R Presence o Recent Iron Thin Muck Gauge or N	ned Leav una (B13 tic Plants Sulfide Od thizosphe of Reduce n Reducti Surface ((B14) dor (C1) res on Liv ed Iron (C4 on in Tille (C7) (D9)	4)	Second Su Dra Dra Cra (C3) Sa Stu Stu	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2)
Depth (incomercial contents) POROLOGITIES SURFACE No. 1 Sediment Water March Mar	GY drology Inc. ators (minit Water (A1) ter Table (A on (A3) arks (B1) at Deposits posits (B3) t or Crust (I osits (B5) on Visible o	licators: mum of or A2) (B2) B4) n Aerial In	ne is requi	red; check V F F 17 F	Water-Stai Aquatic Fa Frue Aqua Hydrogen S Dxidized R Presence o Recent Irol	ned Leav una (B13 tic Plants Sulfide Od thizosphe of Reduce n Reducti Surface ((B14) dor (C1) res on Liv ed Iron (C4 on in Tille (C7) (D9)	4)	Second Su Dra Dra Cra (C3) Sa Stu Stu	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2)
/DROLOG /etland Hydrimary Indic Surface \(\frac{1}{2} \) / Saturatio Water Mi Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely ield Observi	GY drology Inc. ators (mining Water (A1) ter Table (A on (A3) arks (B1) arks (B3) t Deposits cosits (B3) t or Crust (I osits (B5) on Visible of Vegetated vations:	licators: mum of or A2) (B2) B4) n Aerial In Concave	ne is requi nagery (B' Surface (I	red; check \ \	Water-Stai Aquatic Fa Frue Aqua Hydrogen S Dxidized R Presence o Recent Iron Fhin Muck Gauge or V	ned Leav una (B13 tic Plants Sulfide Oct thizosphe of Reduce n Reducti Surface (Well Data	(B14) (B14) dor (C1) res on Liv ed Iron (C4 on in Tille (C7) (D9) emarks)	4)	Second Su Dra Dra Cra (C3) Sa Stu Stu	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2)
Primary Indic Surface N Vater Ma Sedimen Drift Dep Algal Ma Iron Dep Inundation Sparsely Surface Water Surface N Surface N Vater Ma Sedimen Drift Dep Algal Ma Iron Dep Vater Ma Surface Water Surface Water Surface Water	drology Inc. ators (mining Water (A1)) ter Table (A1) arks (B1) at Deposits (B3) at or Crust (B3) at or Crust (B5) and Visible of Vegetated (Vations: ar Present?	licators: mum of or A2) (B2) B4) n Aerial In Concave	nagery (B Surface (I	red; check v V f f f f f f f f f No v	Water-Stai Aquatic Fa Frue Aqua Hydrogen S Dxidized R Presence o Recent Iron Thin Muck Gauge or V Other (Exp	ned Leav una (B13 tic Plants Sulfide Ochizosphe of Reduce n Reducti Surface (Well Data clain in Re	(B14) (B14) dor (C1) res on Liv ed Iron (C4 on in Tille (C7) (D9) emarks)	4)	Second Su Dra Dra Cra (C3) Sa Stu Stu	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2)
Depth (incontention of the content o	GY Irology Inc. ators (mining Water (A1) ter Table (An) on (A3) arks (B1) of Deposits cosits (B3) tor Crust (if cosits (B5) on Visible of vegetated vations: er Present? Present?	dicators: mum of or A2) (B2) B4) n Aerial In Concave	nagery (B. Surface (I	red; check / _ /	Water-Stai Aquatic Fa Frue Aquatic Hydrogen S Dxidized R Presence of Recent Iron Fhin Muck Gauge or N Other (Exp Depth (inc	ned Leav una (B13 tic Plants Sulfide Ochizosphe of Reduce n Reducti Surface (Well Data plain in Re ches): ches):	(B14) (B14) dor (C1) res on Liv ed Iron (C4 on in Tille (C7) (D9) emarks)	4) d Soils (Ce	Second Su Dr: Cr: (C3)	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) .C-Neutral Test (D5)
Primary Indic Sedimen Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely Field Observ Surface Water Table Saturation Pr	GY Irology Inc. ators (mining Water (A1) ter Table (An) arks (B1) arks (B1) arks (B3) tor Crust (Inc. cosits (B5) and Visible on Vegetated vations: er Present? Present?	dicators: mum of or A2) (B2) B4) n Aerial In Concave Ye Ye Ye	nagery (B. Surface (I	red; check v V f f f f f f f f f No v	Water-Stai Aquatic Fa Frue Aquatic Hydrogen S Dxidized R Presence of Recent Iron Fhin Muck Gauge or N Other (Exp Depth (inc	ned Leav una (B13 tic Plants Sulfide Ochizosphe of Reduce n Reducti Surface (Well Data plain in Re ches): ches):	(B14) (B14) dor (C1) res on Liv ed Iron (C4 on in Tille (C7) (D9) emarks)	4) d Soils (Ce	Second Su Dr: Cr: (C3)	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2)
Primary Indic Semarks: Primary Indic Surface N Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely Sield Observ Surface Water Table Istaturation Princludes cap	GY Irology Inc. ators (mining Water (A1) ter Table (A1) arks (B1) arks (B1) arks (B3) t or Crust (Inc. cosits (B5) and Visible of vegetated vations: er Present? ersent?	licators: mum of or A2) (B2) B4) n Aerial In Concave Ye Ye Ye	nagery (B' Surface (I	red; check V F F 17 7) (388) (388)	Water-Stail Aquatic Fa Frue Aquatic Hydrogen S Dxidized R Presence of Recent Iron Thin Muck Gauge or N Other (Exp Depth (inco	ned Leav una (B13 tic Plants Sulfide Ochizosphe of Reduce n Reducti Surface (Well Data plain in Re ches): ches):	(B14) (B14) dor (C1) res on Liv ed Iron (C4 on in Tille (C7) (D9) emarks)	d Soils (Ce	Second Su Dra Dra Cra (C3) Sa Stu FA	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) .C-Neutral Test (D5)
Depth (incontroller) Primary Indicontroller Primary Indicontroller Surface Naturation Water May Sedimen Drift Dep Algal Ma Iron Dep Inundation Sparsely Field Observ Surface Water Vater Table Incoludes cap Describe Recontroller Security Surface	GY Irology Inc. ators (mining Water (A1) ter Table (A1) arks (B1) arks (B1) arks (B3) t or Crust (Inc. cosits (B5) and Visible of vegetated vations: er Present? ersent?	licators: mum of or A2) (B2) B4) n Aerial In Concave Ye Ye Ye	nagery (B' Surface (I	red; check V F F 17 7) (388) (388)	Water-Stail Aquatic Fa Frue Aquatic Hydrogen S Dxidized R Presence of Recent Iron Thin Muck Gauge or N Other (Exp Depth (inco	ned Leav una (B13 tic Plants Sulfide Ochizosphe of Reduce n Reducti Surface (Well Data plain in Re ches): ches):	(B14) (B14) dor (C1) res on Liv ed Iron (C4 on in Tille (C7) (D9) emarks)	d Soils (Ce	Second Su Dra Dra Cra (C3) Sa Stu FA	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) .C-Neutral Test (D5)
Depth (incontention products of the contention p	GY Irology Inc. ators (mining Water (A1) ter Table (A1) arks (B1) arks (B1) arks (B3) t or Crust (Inc. cosits (B5) and Visible of vegetated vations: er Present? ersent?	licators: mum of or A2) (B2) B4) n Aerial In Concave Ye Ye Ye	nagery (B' Surface (I	red; check V F F 17 7) (388) (388)	Water-Stail Aquatic Fa Frue Aquatic Hydrogen S Dxidized R Presence of Recent Iron Thin Muck Gauge or N Other (Exp Depth (inco	ned Leav una (B13 tic Plants Sulfide Ochizosphe of Reduce n Reducti Surface (Well Data plain in Re ches): ches):	(B14) (B14) dor (C1) res on Liv ed Iron (C4 on in Tille (C7) (D9) emarks)	d Soils (Ce	Second Su Dra Dra Cra (C3) Sa Stu FA	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) .C-Neutral Test (D5)
Primary Indic Surface N High War Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep	GY Irology Inc. ators (mining Water (A1) ter Table (A1) arks (B1) arks (B1) arks (B3) t or Crust (Inc. cosits (B5) and Visible of vegetated vations: er Present? ersent?	licators: mum of or A2) (B2) B4) n Aerial In Concave Ye Ye Ye	nagery (B' Surface (I	red; check V F F 17 7) (388) (388)	Water-Stail Aquatic Fa Frue Aquatic Hydrogen S Dxidized R Presence of Recent Iron Thin Muck Gauge or N Other (Exp Depth (inco	ned Leav una (B13 tic Plants Sulfide Ochizosphe of Reduce n Reducti Surface (Well Data plain in Re ches): ches):	(B14) (B14) dor (C1) res on Liv ed Iron (C4 on in Tille (C7) (D9) emarks)	d Soils (Ce	Second Su Dra Dra Cra (C3) Sa Stu FA	dary Indicators (minimum of two require rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) .C-Neutral Test (D5)

Project/Site: Midwater BESS		City/County	y: <u>Freebor</u>	rn County Sampling Date: 2024-04-29			
Applicant/Owner: Spearmint Renewable Devel	opment	State: Minnesota Sampling Point: WB-03/04-up					
Investigator(s): M. Stone, C. Gunn		Section, To	ownship, Rai	nge: <u>sec 08 T101N R020W</u>			
Landform (hillslope, terrace, etc.): Flat							
				Datum: WGS84			
		-		NWI classification: None			
Are climatic / hydrologic conditions on the site typical for							
	_						
				*Normal Circumstances" present? Yes No			
Are Vegetation, Soil, or Hydrology				eded, explain any answers in Remarks.)			
SUMMARY OF FINDINGS - Attach site m	ap showing	samplir	ng point l	ocations, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes	No						
	No		he Sampled				
	No 🗸	witi	nin a Wetlar	nd? Yes No			
Remarks:		l l					
VEGETATION – Use scientific names of pla	ints.						
Trac Chrotism (Diet sine) 20	Absolute		t Indicator	Dominance Test worksheet:			
Tree Stratum (Plot size: 30)	40		Status FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)			
1. <u>Populus deltoides</u>				That Are OBL, FACW, or FAC: (A)			
2				Total Number of Dominant Species Across All Strata: 3 (B)			
4							
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 (A/B)			
	40.0	= Total Co	ver	(*3)			
Sapling/Shrub Stratum (Plot size:15				Prevalence Index worksheet:			
1				Total % Cover of: Multiply by:			
2				OBL species 0.00 x 1 = 0.00			
3				FACW species 30.00 x 2 = 60.00			
4				FAC species 80.00 x 3 = 240.00			
5				FACU species <u>95.00</u> x 4 = <u>380.00</u> UPL species <u>0.00</u> x 5 = <u>0.00</u>			
Herb Stratum (Plot size: 5)		= Total Co	over	Column Totals: 205.00 (A) 680.00 (B)			
1. Bromus inermis	50	Y	FACU	Column Totals. <u>203.00</u> (A) <u>000.00</u> (B)			
2. <u>Poa pratensis</u>	40	Y	FAC	Prevalence Index = B/A = 3.32			
3. Echinochloa crus-galli	30	N	FACW	Hydrophytic Vegetation Indicators:			
4. Taraxacum officinale		N	FACU	1 - Rapid Test for Hydrophytic Vegetation			
5. <u>Trifolium pratense</u>	10	N	FACU	✓ 2 - Dominance Test is >50%			
6. <u>Erigeron canadensis</u>			<u>FACU</u>	3 - Prevalence Index is ≤3.0 ¹			
7. <u>Solidago canadensis</u>			FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
8				Problematic Hydrophytic Vegetation ¹ (Explain)			
9				Froblematic Hydrophytic vegetation (Explain)			
10				¹ Indicators of hydric soil and wetland hydrology must			
Woody Vine Stratum (Plot size: 30)	165.0	= Total Co	ver	be present, unless disturbed or problematic.			
1							
2.				Hydrophytic Vegetation			
				Present? Yes V No No			
Remarks: (Include photo numbers here or on a separ		= Total Co	ver				
Point taken adjacent to roadside, ve	,	sturbed	l <u>.</u>				
,	-						

SOIL Sampling Point: WB-03/04-up

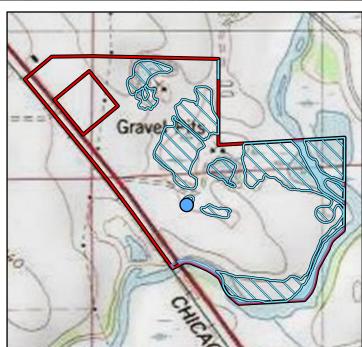
		or commi	the absence of indicators.)
Depth Matrix	Redox Features		
(inches) Color (moist) %	Color (moist) % Type	Loc ²	Texture Remarks
<u>0-4</u> <u>10YR 3/2</u> <u>100</u>			COSL
4-12 10YR 4/2 90	_10YR 4/6 _ 10 _ C	М	COSL
¹ Type: C=Concentration, D=Depletion, RM	=Reduced Matrix, MS=Masked Sand (Brains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:			Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4)	Coast Prairie Redox (A16)
Histic Epipedon (A2)	— Sandy Redox (S5)		— Dark Surface (S7)
Black Histic (A3)	Stripped Matrix (S6)		Iron-Manganese Masses (F12)
Hydrogen Sulfide (A4)Stratified Layers (A5)	Loamy Mucky Mineral (F Loamy Gleyed Matrix (F2	•	Very Shallow Dark Surface (TF12)
2 cm Muck (A10)	Depleted Matrix (F3))	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)		carer (Explain in Nomano)
Thick Dark Surface (A12)	Depleted Dark Surface (F	7)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	• /	wetland hydrology must be present,
5 cm Mucky Peat or Peat (S3)	(unless disturbed or problematic.
Restrictive Layer (if observed):			
Type: Fill			
Depth (inches): 12			Hydric Soil Present? Yes No ✔
Remarks:			,
HYDROLOGY			
Wetland Hydrology Indicators:	ired: check all that apply)		Secondary Indicators (minimum of two required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requ	• • • •		Secondary Indicators (minimum of two required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requ Surface Water (A1)	Water-Stained Leaves (B9)		Surface Soil Cracks (B6)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requ Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) Aquatic Fauna (B13)		Surface Soil Cracks (B6)Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requestional content of the second conten	Water-Stained Leaves (B9)Aquatic Fauna (B13)True Aquatic Plants (B14)		Surface Soil Cracks (B6)Drainage Patterns (B10)Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requestions and surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9)Aquatic Fauna (B13)True Aquatic Plants (B14)Hydrogen Sulfide Odor (C1)		 Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requestions) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	 Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I 	iving Roots (Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	 Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I Presence of Reduced Iron (iving Roots (C4)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested in the second in the	 Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I Presence of Reduced Iron (Recent Iron Reduction in Ti 	iving Roots (C4)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested in Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I Presence of Reduced Iron (Recent Iron Reduction in Ti Thin Muck Surface (C7)	iving Roots (C4)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I Presence of Reduced Iron (Recent Iron Reduction in Ti Thin Muck Surface (C7) Gauge or Well Data (D9)	iving Roots (C4)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Base)	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I Presence of Reduced Iron (Recent Iron Reduction in Ti Thin Muck Surface (C7) Gauge or Well Data (D9)	iving Roots (C4)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Base) Sparsely Vegetated Concave Surface of Field Observations:	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1 Oxidized Rhizospheres on I Presence of Reduced Iron (Recent Iron Reduction in Ti Thin Muck Surface (C7) Gauge or Well Data (D9) (B8) Other (Explain in Remarks)	iving Roots (C4) led Soils (C6)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Based of Concave Surface of Concave Surface of Concave Water Present? Surface Water Present?	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I Presence of Reduced Iron (Recent Iron Reduction in Ti Thin Muck Surface (C7) Gauge or Well Data (D9) (B8) Other (Explain in Remarks)	iving Roots (C4)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Based of Sparsely Vegetated Concave Surface of Field Observations: Surface Water Present? Water Table Present? Yes Water Table Present? Yes	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I Presence of Reduced Iron (Recent Iron Reduction in Ti Thin Muck Surface (C7) Gauge or Well Data (D9) (B8) Other (Explain in Remarks) No Depth (inches): Depth (inches):	iving Roots (C4) led Soils (C6)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)) Geomorphic Position (D2) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Based of Sparsely Vegetated Concave Surface of Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes Saturation Present?	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I Presence of Reduced Iron (Recent Iron Reduction in Ti Thin Muck Surface (C7) Gauge or Well Data (D9) (B8) Other (Explain in Remarks)	iving Roots (C4) led Soils (C6)	 Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Based of Sparsely Vegetated Concave Surface of Field Observations: Surface Water Present? Water Table Present? Yes Water Table Present? Yes	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I Presence of Reduced Iron (Recent Iron Reduction in Ti Thin Muck Surface (C7) Gauge or Well Data (D9) (B8) Other (Explain in Remarks) No Depth (inches): No Depth (inches):	iving Roots (C4) led Soils (C6) Wetla	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Based of Sparsely Vegetated Concave Surface of Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I Presence of Reduced Iron (Recent Iron Reduction in Ti Thin Muck Surface (C7) Gauge or Well Data (D9) (B8) Other (Explain in Remarks) No Depth (inches): No Depth (inches):	iving Roots (C4) led Soils (C6) Wetla	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Based of Sparsely Vegetated Concave Surface of Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, means the surface of t	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I Presence of Reduced Iron (Recent Iron Reduction in Ti Thin Muck Surface (C7) Gauge or Well Data (D9) (B8) Other (Explain in Remarks) No Depth (inches): No Depth (inches):	iving Roots (C4) led Soils (C6) Wetla	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Based of the content	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I Presence of Reduced Iron (Recent Iron Reduction in Ti Thin Muck Surface (C7) Gauge or Well Data (D9) (B8) Other (Explain in Remarks) No Depth (inches): No Depth (inches):	iving Roots (C4) led Soils (C6) Wetla	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Based of Sparsely Vegetated Concave Surface of Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, means the surface of t	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I Presence of Reduced Iron (Recent Iron Reduction in Ti Thin Muck Surface (C7) Gauge or Well Data (D9) (B8) Other (Explain in Remarks) No Depth (inches): No Depth (inches):	iving Roots (C4) led Soils (C6) Wetla	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requested Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (Based of Sparsely Vegetated Concave Surface of Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, means the surface of t	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on I Presence of Reduced Iron (Recent Iron Reduction in Ti Thin Muck Surface (C7) Gauge or Well Data (D9) (B8) Other (Explain in Remarks) No Depth (inches): No Depth (inches):	iving Roots (C4) led Soils (C6) Wetla	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)

Midwater BESS Project Delineation Site Photograph









Map Document N;0046089.001 GISI Arch-0/R0046089 040 WetlandPhotologs 20240510/R0046089 040 WetlandPhotologs 2024050/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologo 2024060/R0046089 040 WetlandPhotologo

Project/Site: Midwater BESS	(City/Cou	ınty: <u>Freebor</u>	n County	_ Sampling [Date: <u>2024-</u>	04-29
Applicant/Owner: Spearmint Renewable Developr							
Investigator(s): M. Stone, C. Gunn	;	Section,	, Township, Rai	nge: sec 17 T101N	R020W		
Landform (hillslope, terrace, etc.): Depression							
Slope (%): <u>0-2</u> Lat: <u>43.556635</u>							
Soil Map Unit Name: Estherville sandy loam, 6 to 1		_					
Are climatic / hydrologic conditions on the site typical for thi	•	•					
Are Vegetation, Soil, or Hydrology						es ✔ N	0
Are Vegetation, Soil, or Hydrology				eded, explain any answ			
SUMMARY OF FINDINGS – Attach site map							s, etc.
Hydrophytic Vegetation Present? Yes ✓ N	lo.						
Hydric Soil Present? Yes N			s the Sampled				
Wetland Hydrology Present? Yes V		W	vithin a Wetlan	id? Yes <u> </u>	<u>∨</u> No		
Remarks: Suspect area identified in Offsite Hydro		view.					
VEGETATION – Use scientific names of plants							
Tree Stratum (Plot size:)	% Cover	Specie	ant Indicator es? Status	Dominance Test wor Number of Dominant S	Species		
1				That Are OBL, FACW,	_	1	(A)
3				Total Number of Domi Species Across All Str		2	(B)
4. 5.				Percent of Dominant S That Are OBL, FACW,	Species , or FAC: _	50.00	(A/B)
Sapling/Shrub Stratum (Plot size:15)	0	= Total	Cover	Prevalence Index wo	rksheet:		
1				Total % Cover of:		Multiply by:	
2.				OBL species 0.			
3.				FACW species 50			_
4.				FAC species <u>0.</u>	<u>00</u> x 3 =	= 0.00	
5				FACU species 37	<u>.00</u> x 4 =	<u> 148.00</u>	
		= Total	Cover	UPL species <u>0.</u>	<u>00 </u>	= 0.00	_
Herb Stratum (Plot size: 5)				Column Totals: 87	<u>.00</u> (A)	248.00	(B)
1. <u>Phalaris arundinacea</u>		<u>Y</u>	<u>FACW</u>	Prevalence Inde	v = B/A = 2	85	
2. Bromus inermis		<u>Y</u>		Hydrophytic Vegeta	·		
3. <u>Pastinaca sativa</u>			NI	1 - Rapid Test for			
4				2 - Dominance Te			
5 6				✓ 3 - Prevalence Ind			
7				4 - Morphological		(Provide sup	porting
8.				data in Remark			
9				— Problematic Hydr	ophytic Vege	etation ¹ (Expla	ain)
10				1			
Woody Vine Stratum (Plot size:)	97.0	= Total	Cover	¹ Indicators of hydric s be present, unless dis			must
1				Hydrophytic			
2				Vegetation Present? You	es <u>/</u>	No	
		= Total	Cover		<u> </u>		
Remarks: (Include photo numbers here or on a separate	sheet.)						

SOIL Sampling Point: WB-05-WET

Profile Des	cription: (E	Describe	to the dept	h needed to docur	nent the	indicator	or confir	m the absence	e of indicators.)
Depth		Matrix			x Feature		2		
(inches)	Color (<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-14	<u> 10YR</u>	2/1	100					FSL	·
14-18	<u>10YR</u>	2/1	100					FSL	Some silty inclusions
18-26	<u>10YR</u>	3/1	50					FSL	Mixed matrix, silty inclusions
	10YR	2/1	50					FSL	
									·
	-								
¹ Type: C=C	Concentration	n D=Den	letion RM=	Reduced Matrix, MS	S=Masked	d Sand Gra	ains	² l o	cation: PL=Pore Lining, M=Matrix.
	Indicators:			· · · · · · · · · · · · · · · · · · ·					s for Problematic Hydric Soils ³ :
Histoso	l (A1)			Sandy (Gleyed Ma	atrix (S4)		Coast	Prairie Redox (A16)
	pipedon (A2	2)		•	Redox (S5	,		— Dark	Surface (S7)
	listic (A3)	١.4١			d Matrix (Iron-N	Manganese Masses (F12)
	en Sulfide (A ed Layers (A				Gleyed M	neral (F1) atrix (F2)			Shallow Dark Surface (TF12)
	uck (A10)	• /			d Matrix (-	(Explain in Remarks)
Deplete	ed Below Da	rk Surface	e (A11)	Redox [Dark Surfa	ace (F6)			
	ark Surface	` ,				urface (F7)			s of hydrophytic vegetation and
	Mucky Mine ucky Peat o	, ,	8)	Redox I	Depressio	ns (F8)			nd hydrology must be present, s disturbed or problematic.
	Layer (if ob							unics	s distarbed of problematic.
	, ,	•							
Depth (ir	nches):							Hydric Soi	I Present? Yes <u>✓</u> No
Remarks:									
Assume	d A12								
HYDROLC									
Wetland Hy									
			ne is requir	ed; check all that ap		(50)			ary Indicators (minimum of two required)
	Water (A1)			Water-Sta		` '			rface Soil Cracks (B6)
High w Saturat	ater Table (/	42)		Aquatic Fa True Aqua					ainage Patterns (B10) /-Season Water Table (C2)
Saturat	, ,			Hydrogen					ayfish Burrows (C8)
	ent Deposits	(B2)					ina Roots		turation Visible on Aerial Imagery (C9)
Drift De		()		Presence			-		inted or Stressed Plants (D1)
	lat or Crust (B4)		Recent Iro		•	,		omorphic Position (D2)
Iron De	posits (B5)			Thin Muck	Surface	(C7)		FA	C-Neutral Test (D5)
Inundat	tion Visible o	n Aerial I	magery (B7) Gauge or	Well Data	(D9)			
	ly Vegetated	l Concave	Surface (E	38) Other (Exp	olain in Re	emarks)			
Field Obse									
	ter Present?			No <u>v</u> Depth (in					
Water Table				lo 🔽 Depth (in					
Saturation F	Present? apillary fringe		es N	No <u>v</u> Depth (in	ches):		Wet	land Hydrolog	gy Present? Yes 🔽 No
			gauge, mo	nitoring well, aerial	photos, pr	evious ins	pections)	, if available:	
Remarks:									

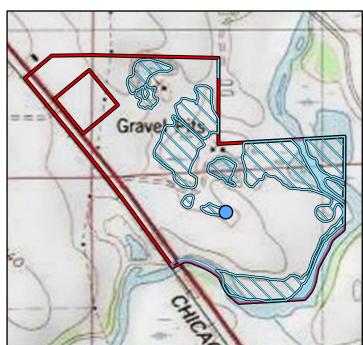
Map Document N;0046089.001 GISI, ArcProi/R0046089 040 WetlandPhotologs. 202405101/R0046089 040 WetlandPhotologs. 202405101/R0046089 040 WetlandPhotologs. 20240510.aprx 5/10/2024 1;23 PM MMQuadu

Midwater BESS Project Delineation Site Photograph









Project/Site: Midwater BESS	(City/Cou	ınty: <u>Freebor</u>	n County	_ Sampling	Date: 2024-	04-29
Applicant/Owner: Spearmint Renewable Developr	ment			State: Minnesota	Sampling P	oint: <u>WB-06</u>	i-wet
Investigator(s): M. Stone, C. Gunn		Section,	Township, Rar	nge: sec 17 T101N	R020W		
Landform (hillslope, terrace, etc.): Depression			Local relief	(concave, convex, none): Concav	e	
Slope (%): <u>0-2</u> Lat: <u>43.556407</u>		Long: <u>-</u> 9	93.263917		_ Datum: <u>V</u>	VGS84	
Soil Map Unit Name: Estherville sandy loam, 6 to 1		_					
Are climatic / hydrologic conditions on the site typical for thi	•	•					
Are Vegetation, Soil, or Hydrologys						∕es ✔ N	lo
Are Vegetation, Soil, or Hydrology I				eded, explain any answ			
SUMMARY OF FINDINGS – Attach site map							es, etc.
Hydrophytic Vegetation Present? Yes ✓ N	lo						
Hydric Soil Present? Yes N			s the Sampled				
Wetland Hydrology Present? Yes V		W	vithin a Wetlan	id? Yes	<u>/</u> No_		
Remarks: Suspect area identified in Offsite Hydro		view.					
VEGETATION – Use scientific names of plants							
Tree Stratum (Plot size:) 1	% Cover	Specie	ant Indicator es? Status	Dominance Test wor Number of Dominant That Are OBL, FACW	Species	2	(A)
2				Total Number of Dom	inant	3	. ,
4				Species Across All St Percent of Dominant S	Species		. (/
5	0		Cover	That Are OBL, FACW	, or FAC:	66.67	(A/B)
Sapling/Shrub Stratum (Plot size: 15)		= Total	Cover	Prevalence Index wo	orksheet:		
1				Total % Cover of:	<u> </u>	Multiply by:	
2				OBL species0	<u>.00</u> x 1	= <u>0.00</u>	
3				FACW species <u>35</u>			_
4				FAC species 20			_
5				FACU species 40		·	_
Herb Stratum (Plot size:5	0	= Total	Cover	UPL species 0			
1. Bromus inermis	40	Υ	FACU	Column Totals: 95	<u>).00</u> (A)	290.00	(B)
Phalaris arundinacea		Y		Prevalence Inde	x = B/A = _	3.05	_
3. Poa pratensis		Y	FAC	Hydrophytic Vegeta	tion Indicat	ors:	
4. Pastinaca sativa		N		1 - Rapid Test for	Hydrophytic	: Vegetation	
5				✓ 2 - Dominance Tell			
6				3 - Prevalence Inc	dex is ≤3.0 ¹		
7				4 - Morphological			
8				data in Remar			
9				— Problematic Hyd	rophytic Veg	etation (Expla	aın)
10				1 Indicators of budgies	sail and watk	and budralagu	must
Woody Vine Stratum (Plot size: 30)	100.0			¹ Indicators of hydric s be present, unless di			must
1				Hydrophytic			
2				Vegetation Present? Y	'es _ 🗸	No _	
		= Total	Cover				
Remarks: (Include photo numbers here or on a separate	sneet.)						

SOIL Sampling Point: WB-06-wet

Depth (miches)		Jescribe to the de	epth needed to docum			or contirr	n the absence	of indicators.)
0-18 10YR 2/2 100 FSL Some silty inclusions Type: C-Concentration. D=Depletion. RM=Reduced Matrix, MS=Masked Sand Grains. This concentration. D=Depletion. RM=Reduced Matrix, MS=Masked Sand Grains. This concentration. D=Depletion. RM=Reduced Matrix (S4) Histosci (A1) Histosci (A1) Histosci (A1) Sandy Gleyed Matrix (S4) Loany Mucky Mineral (F1) Loany Mucky Mineral (F1) Dept Mucky (A10) Depletid Matrix (F3) Depletid Matrix (F3) Depletid Matrix (F3) Depletid Matrix (F3) Depletid Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Sand Mucky Peat or Peat (S3) Redux Depressions (F8) Thick Dark Surface (A12) Type: Depth (inches): Depth (inches): Type: Depth (inches): Water Matrix (B1) Secondary Indicators (minimum of two required matrix (B13) Dringer Patterns (B10) Dry-Season Water Table (A2) Saturation (A3) True Aquatic Patrix (B13) Dry-Season Water Table (C2) Crayfish Burrows (R8) Presence of Reduced from (C4) Sediment Deposits (B3) Presence of Reduced from (C4) Sediment Deposits (B3) Presence of Reduced from (C4) Sediment Deposits (B3) Presence of Reduced from (C4) Sparace Vater Festion (P2) Sparace Vater Patrix (P2) Sparace Vater Patrix (P3) Sparace Vater Patrix (P3) Sparace Vater Patrix (P3) Depth (Inches): Secondary Indicators (minimum of two required matrix (P3) Dry-Season Water Table (C2) Crayfish Burrows (R8) Dry-Season Water Table (C2) Crayfish Burrows (R8) Dry-Season Water Table (C2) Sparace Vater Patrix (P3) Spara						1 2	Tauduma	Domode
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Type Matrix, GSD Cand Matrix, MS=Masked Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Type Matrix, MS=Masked Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Type Matrix, MS=Masked Sand Grains. Type: C=Concentration, D=Depletion Matrix, MS=Masked Sand Grains. Type: C=Concentration, D=Depletion, MS=Masked			Color (moist)	%	<u>ı ype</u>	LOC		Remarks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Pydric Soil Indicators:** Histosoi (A1)								
ydric Soil Indicators: Histosoi (A1) Histosoi (A1) Histosoi (A2) Black Histo (A3) Black Histo (A3) Hydrogen Sulfde (A4) Stripped Matrix (S6) Hydrogen Sulfde (A4) Stratified Layers (A5) Stratified Layers (A5) Depleted Black Matrix (F2) Depleted Matrix (F3) Thick Dark Surface (A11) Thick Dark Surface (A11) Thick Dark Surface (A12) Thick Dark Surface (A12) Thick Dark Surface (A12) Thick Dark Surface (A12) Thick Dark Surface (A13) Type: Depleted Black Wineral (S1) To m Mucky Mineral (S1) To m Mucky Mineral (S1) To m Mucky Peat or Peat (S3) Setrictive Layer (If observed): Type: Depth (inches): Bepth (inches): Bepth (inches): Bepth (inches): Surface Water (A1) Surface Water (A1) Water-Stained Leaves (B9) Aquatic Fauna (B13) Surface Water (A1) Surface Water (A1) Water-Stained Leaves (B9) Aquatic Fauna (B13) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Surface Soil Cracks (B6) Driniage Patterns (B10) Sediment Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) In Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) For Crust (B4) For Crust (B4) Recomb Iron Redox Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) For Crust (B4)	<u>18-28</u> <u>10YR</u>	2/1 100					FSL	Some silty inclusions
Thick Dark Surface (A12) Depleted Dark Surface (F7)	ydric Soil Indicators: _ Histosol (A1) _ Histic Epipedon (A2 _ Black Histic (A3) _ Hydrogen Sulfide (A2) _ Stratified Layers (A2)	: 2) A4)	Sandy G Sandy R Stripped Loamy N Loamy G	Gleyed Ma ledox (S5) Matrix (S Mucky Min Gleyed Ma	ntrix (S4)) 66) neral (F1) atrix (F2)	ains.	Indicators Coast Dark S Iron-M Very S	For Problematic Hydric Soils ³ : Prairie Redox (A16) Surface (S7) Ianganese Masses (F12) Shallow Dark Surface (TF12)
Secondary Indicators (minimum of two requires strainary Indicators (minimum of two requires strainary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two requires surface Water (A1)	Thick Dark Surface Sandy Mucky Mine	(A12) ral (S1)	Redox D Depleted	ark Surfa d Dark Su	ice (F6) rface (F7)		wetlan	d hydrology must be present,
Type:		• •					unless	s disturbed or problematic.
Permarks: SSUME Soil Present? Yes v No No No No No No No	_	•						
emarks: SSUMED A12 Format Company Compa							Hydric Soi	l Present? Yes <u>✔</u> No
Secondary Indicators (minimum of two required positions) Surface Water (A1)	YDROLOGY							
Surface Water (A1)	Vetland Hydrology In	dicators:						
Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	rimary Indicators (mini							
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Geomorphic Position (D2) FAC-Neutral Test (D5) FAC-Neutral Test (D5) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Geomorphic Position (D2) FAC-Neutral Test (D5)	High Water Table ()	Water-Stair	ned Leave una (B13))		Sur Dra	face Soil Cracks (B6) inage Patterns (B10)
Surface Water Present? Yes No _v _ Depth (inches): Vater Table Present? Yes No _v _ Depth (inches): Saturation Present? Yes No _v _ Depth (inches): Security of the present includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits	A2)	Water-Stain Aquatic Fa True Aquat Hydrogen S Oxidized R	ned Leave una (B13) tic Plants Sulfide Oc hizosphei) (B14) dor (C1) res on Livi	-	Sur Dra Dry Cra (C3) Sat	face Soil Cracks (B6) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9)
Vater Table Present? Yes No V Depth (inches): Wetland Hydrology Present? Yes No	High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust (Iron Deposits (B5) Inundation Visible (Sparsely Vegetated	(B2) (B4) on Aerial Imagery (Water-Stain Aquatic Far True Aquat Hydrogen S Oxidized R Presence of Recent Iror Thin Muck B7) Gauge or V	ned Leave una (B13) tic Plants Sulfide Oc hizospher of Reduce n Reductic Surface ((B14) (dor (C1) res on Livi d Iron (C4 on in Tilled C7) (D9)	·)	Sur Dra Dry Cra (C3) Sat Stu Geo	face Soil Cracks (B6) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2)
aturation Present? Yes No V Depth (inches): Wetland Hydrology Present? Yes No ncludes capillary fringe) lescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust (Iron Deposits (B5) Inundation Visible (Sparsely Vegetated ((B2) (B4) on Aerial Imagery (Water-Stain Aquatic Fa True Aquat Hydrogen S Oxidized R Presence of Recent Iror Thin Muck B7) Gauge or V (B8) Other (Exp	ned Leave una (B13) tic Plants Sulfide Oc hizosphei of Reduce n Reductio Surface (Vell Data lain in Re	(B14) (B14) dor (C1) res on Livi d Iron (C4 on in Tilled C7) (D9) marks)	d Soils (C	Sur Dra Dry Cra (C3) Sat Stu Geo	face Soil Cracks (B6) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2)
	High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust (Iron Deposits (B5) Inundation Visible (Sparsely Vegetated Field Observations:	(B2) (B4) On Aerial Imagery (d Concave Surface	Water-Stain Aquatic Far Aquatic Far True Aquat Hydrogen S Oxidized R Presence of Recent Iror Thin Muck B7) Gauge or V (B8) Other (Exp	ned Leave una (B13) tic Plants Sulfide Oc hizospher of Reduce n Reductic Surface (Vell Data lain in Re	(B14) (B14) dor (C1) res on Livi d Iron (C4 on in Tilled C7) (D9) marks)	d Soils (Co	Sur Dra Dry Cra (C3) Sat Stu Geo	face Soil Cracks (B6) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2)
Remarks:	High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust (Iron Deposits (B5) Inundation Visible (Sparsely Vegetated (Field Observations: Surface Water Present? Vater Table Present? Saturation Present?	(B2) (B4) On Aerial Imagery (d Concave Surface Yes Yes Yes	Water-Stain Aquatic Far Aquatic Far True Aquat Hydrogen S Oxidized R Presence of Recent Iror Thin Muck B7) Gauge or V (B8) Other (Exp	ned Leave una (B13) tic Plants Sulfide Ochizosphei of Reduce on Reductic Surface (Well Data lain in Re thes): thes):	(B14) (B14) dor (C1) res on Livi red Iron (C4 on in Tilled C7) (D9) marks)	d Soils (Co	Sur Dra Dry Cra (C3) ✓ Sat Stu 6) ✓ Gec FAC	face Soil Cracks (B6) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2) C-Neutral Test (D5)
	High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust (Iron Deposits (B5) Inundation Visible (Sparsely Vegetated (Field Observations: Surface Water Present? Vater Table Present? Saturation Present?	(B2) (B4) On Aerial Imagery (d Concave Surface Yes Yes Yes	Water-Stain Aquatic Far Aquatic Far True Aquat Hydrogen S Oxidized R Presence of Recent Iror Thin Muck B7) Gauge or V (B8) Other (Exp	ned Leave una (B13) tic Plants Sulfide Ochizosphei of Reduce on Reductic Surface (Well Data lain in Re thes): thes):	(B14) (B14) dor (C1) res on Livi red Iron (C4 on in Tilled (C7) (D9) marks)	d Soils (Co	Sur Dra Dry Cra (C3) ✓ Sat Stu 6) ✓ Gec FAC	face Soil Cracks (B6) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2) C-Neutral Test (D5)
	High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (Iron Deposits (B5) Inundation Visible (Sparsely Vegetated: Geld Observations: Surface Water Present? Vater Table Present? Saturation Present? Includes capillary fringer	(B2) (B4) On Aerial Imagery (d Concave Surface Yes Yes Yes E)	Water-Stain Aquatic Far Aquatic Far True Aquat Hydrogen S Oxidized R Presence of Recent Iror Thin Muck B7) Gauge or V (B8) Other (Exp	ned Leave una (B13) tic Plants Sulfide Ochizosphei of Reduce on Reductic Surface (Well Data lain in Re thes): thes):	(B14) (B14) dor (C1) res on Livi red Iron (C4 on in Tilled (C7) (D9) marks)	d Soils (Co	Sur Dra Dry Cra (C3) ✓ Sat Stu 6) ✓ Gec FAC	face Soil Cracks (B6) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2) C-Neutral Test (D5)

Project/Site: Midwater BESS	City/Co	ounty:	Freebor	n County Sampling Date: 2024-04-29			
Applicant/Owner: Spearmint Renewable Development		State: Minnesota Sampling Point: WB-05/06-UF					
Investigator(s): M. Stone, C. Gunn	Sectio	n, Tov	nship, Rar	nge: <u>sec 17 T101N R020W</u>			
Landform (hillslope, terrace, etc.): Summit		L	ocal relief	(concave, convex, none): Convex			
Slope (%): <u>0-2</u> Lat: <u>43.556572</u>	Long:	-93.2	265063	Datum: WGS84			
Soil Map Unit Name: Estherville sandy loam, 6 to 12 percentage							
Are climatic / hydrologic conditions on the site typical for this time of	•						
Are Vegetation, Soil, or Hydrology significar	-			Normal Circumstances" present? Yes No			
Are Vegetation, Soil, or Hydrology naturally				eded, explain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map showi							
Hydrophytic Vegetation Present? Yes No		le the	Sampled	Area			
Hydric Soil Present? Yes No			n a Wetlan				
Wetland Hydrology Present? Yes No							
Remarks:							
VEGETATION – Use scientific names of plants.							
Absolu	ute Dom	inant	Indicator	Dominance Test worksheet:			
	ver Spec	ies?	Status	Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)			
2				Total Number of Dominant Species Across All Strata: (B)			
4.				Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)			
0	= Tota	al Cove	er				
Sapling/Shrub Stratum (Plot size:15)				Prevalence Index worksheet: Total % Cover of: Multiply by:			
1							
2				FACW species 0.00 x 2 = 0.00			
4				FAC species 50.00 x 3 = 150.00			
5.				FACU species <u>20.00</u> x 4 = <u>80.00</u>			
0	= Tota		er	UPL species <u>0.00</u> x 5 = <u>0.00</u>			
Herb Stratum (Plot size: 5)	, ,	,	E40	Column Totals: <u>70.00</u> (A) <u>230.00</u> (B)			
1. Poa pratensis 50 2. Bromus inermis 20	<u>)</u>		FAC I	Prevalence Index = B/A = 3.29			
3				Hydrophytic Vegetation Indicators:			
4				1 - Rapid Test for Hydrophytic Vegetation			
5				2 - Dominance Test is >50%			
6				3 - Prevalence Index is ≤3.0 ¹			
7				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
8				Problematic Hydrophytic Vegetation ¹ (Explain)			
9				(
10	<u>.0</u> = Tota		er	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
1				Hydraphytia			
2				Hydrophytic Vegetation			
0	= Tota	al Cove	ar.	Present? Yes No			
Remarks: (Include photo numbers here or on a separate sheet.)	= 10la	ai COVE	<u>51</u>	<u> </u>			
,							

SOIL Sampling Point: WB-05/06-UP

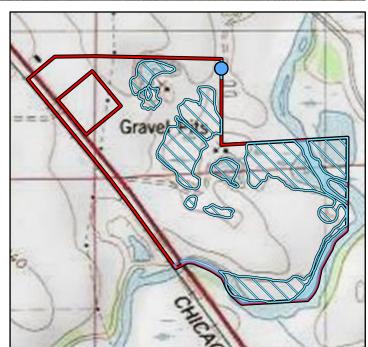
Profile Des	cription: (D	Describe	to the dept	h needed to docur	nent the	indicator	or confirm	n the absence	e of indicators.)
Depth		Matrix			x Feature	s			,
(inches)	Color (ı	moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-6	_10YR	2/2	100					FSL	Silty inclusions, grass roots inc
6-12	10YR	4/2	100					FSL	Gravel inclusions
12-20	10YR	4/4	100					FSL	gravel inclusions
20-26	10YR	5/4	100					FSL	Gravel inclusions
	10111	0/ 4	100						Craver morasions
			· —— -			· ——			
			· 		-				
'Type: C=C Hydric Soil			letion, RM=	Reduced Matrix, MS	S=Masked	d Sand Gra	ains.		cation: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :
				Candy	Clayed Me	atrix (CA)			•
Histoso	ı (A1) pipedon (A2	2)			Sleyed Ma				: Prairie Redox (A16)
	istic (A3)	-)		•	Redox (S5 d Matrix (\$,			Surface (S7)
	en Sulfide (<i>A</i>	\ 4)				neral (F1)			Manganese Masses (F12)
	d Layers (A	5)			Gleyed Ma			-	Shallow Dark Surface (TF12)
	uck (A10)		- (0.4.4)		d Matrix (,		Other	(Explain in Remarks)
-	d Below Dar ark Surface		e (A11)		Dark Surfa	ace (F6) urface (F7)		3Indicator	s of hydrophytic vegetation and
	Mucky Miner				Dark St Depressio				nd hydrology must be present,
	ucky Peat or	. ,	3)	<u>—</u>		- (-)			s disturbed or problematic.
Restrictive	Layer (if ob	served):							
Type:				<u></u>					
Depth (in	ches):			<u></u>				Hydric Soi	I Present? Yes No 🗸
Remarks:									
HYDROLO									
Wetland Hy									
-			ne is require	ed; check all that ap					ary Indicators (minimum of two required)
Surface				Water-Sta		` ,			face Soil Cracks (B6)
High Wa		42)		Aquatic Fa					ninage Patterns (B10)
Saturati	` '			True Aqua				-	v-Season Water Table (C2)
Water N Sedime		(P2)		Hydrogen			ina Poots		ayfish Burrows (C8) curation Visible on Aerial Imagery (C9)
Drift De	•	(DZ)		Presence			•		Inted or Stressed Plants (D1)
Algal M		B4)		Recent Iro		•	,		omorphic Position (D2)
Iron De	,	,		Thin Muck				· —	C-Neutral Test (D5)
Inundat		n Aerial I	magery (B7	·		, ,		<u>—</u>	, ,
Sparsel	y Vegetated	Concave	Surface (B	88) Other (Exp	olain in Re	emarks)			
Field Obser	vations:								
Surface Wat	ter Present?	Y	es N	lo 🔽 Depth (in	ches):				
Water Table	Present?	Υ	es N	lo 🔽 Depth (in	ches):				
Saturation F			es N	lo 🔽 Depth (in	ches):		Wetl	land Hydrolog	gy Present? Yes No 🗹
(includes ca			dalide moi	nitoring well, aerial ¡	ahotoe nr	evious ins	nections)	if available:	
Describe 146	ooraca Dala	a (oucaill	gauge, moi	intorning well, aeridi	onotos, pi	CVIOUS IIIS	peciions),	ii avallabic.	
Remarks:									
None ob	served.								

Midwater BESS Project Delineation Site Photograph









Map Document N;0046089.001 GISI Arch-0/R0046089 040 WetlandPhotologs 20240510/R0046089 040 WetlandPhotologs 2024050/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologo 2024060/R0046089 040 WetlandPhotologo

Project/Site: Midwater BESS	City/County: Freebor	n County Sampling Date: 2024-04-30
Applicant/Owner: Spearmint Renewable Development		State: Minnesota Sampling Point: WB-07-wet
Investigator(s): M. Stone	Section, Township, Rar	nge: sec 08 T101N R020W
Landform (hillslope, terrace, etc.): Depression	Local relief	(concave, convex, none): Concave
Slope (%): <u>0-2</u> Lat: <u>43.560501</u>	Long: -93.264208	Datum: WGS84
Soil Map Unit Name: Aquents and Histosols, ponded	-	
Are climatic / hydrologic conditions on the site typical for this time of you		
Are Vegetation, Soil, or Hydrology significantly		Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally pr		eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing		
Hydrophytic Vegetation Present? Yes No		
Hydric Soil Present? Yes _ v No	is the Sampleu	
Wetland Hydrology Present? Yes No	within a Wetlan	nd? Yes <u>/</u> No
Remarks:		
VEGETATION – Use scientific names of plants.		
	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30) % Cover	Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC:1 (A)
2		Total Number of Dominant
3		Species Across All Strata:1 (B)
4		Percent of Dominant Species
	= Total Cover	That Are OBL, FACW, or FAC:100.00 (A/B)
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species <u>20.00</u> x 1 = <u>20.00</u>
3		FACW species 90.00 x 2 = 180.00 FAC species 0.00 x 3 = 0.00
4		FACU species 0.00 x 4 = 0.00
5	= Total Cover	UPL species 0.00 x 5 = 0.00
Herb Stratum (Plot size: 5)	_ = Total Cover	Column Totals: 110.00 (A) 200.00 (B)
1. Phalaris arundinacea 90	<u>Y FACW</u>	
2. <u>Salix nigra</u> 20	N OBL	Prevalence Index = B/A = 1.82
3		Hydrophytic Vegetation Indicators:
4		 ✓ 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50%
5		✓ 3 - Prevalence Index is ≤3.0 ¹
6		4 - Morphological Adaptations ¹ (Provide supporting
7		data in Remarks or on a separate sheet)
9.		Problematic Hydrophytic Vegetation ¹ (Explain)
10		
	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1		Hydrophytic
2		Vegetation
_ 0	_ = Total Cover	Present? Yes No
Remarks: (Include photo numbers here or on a separate sheet.)		

SOIL Sampling Point: WB-07-wet

Profile Des	cription: (E	Describe t	o the dep	th needed	l to docur	nent the i	indicator o	or confir	m the absence	of indicators.)
Depth		Matrix				x Feature		. 2		
(inches)	Color (,	<u></u> %	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	<u>10YR</u>	2/1	100			-			SIL	
16-24	N	2.5/0	95	10Y	4/1	3	D	M	SCL	
				5GY	3/1	2	D	M	SCL	
						-				
				-			· ——		· - 	
				-		-				
1	· -			-		_				
	Concentration Indicators:		etion, RM=	=Reduced	Matrix, MS	S=Masked	d Sand Gra	ins.		cation: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :
•					Sandy (Clayed Me	atrix (C4)			Prairie Redox (A16)
Histoso	Epipedon (A2	2)		_		Gleyed Ma				
	Histic (A3)	-,		_	,	Redox (S5 d Matrix (S	,			Surface (S7)
	en Sulfide (A	1 4)				Mucky Mi				langanese Masses (F12)
	ed Layers (A	5)		_	-	Gleyed Ma			-	Shallow Dark Surface (TF12)
	uck (A10)			_		d Matrix (Other	(Explain in Remarks)
	ed Below Da		e (A11)	_	_	Dark Surfa			3, ,, ,	
	ark Surface Mucky Mine			_		d Dark St Depressio	ırface (F7)			s of hydrophytic vegetation and d hydrology must be present,
	lucky Peat o	` ,)		_ Redux I	Jepressio	115 (F0)			s disturbed or problematic.
	Layer (if ob		,						1	, dictarsed of presidentation
		•								
• • •	nches):			<u></u>					Hydric Soil	Present? Yes V No
Remarks:									 	
	201									
HYDROLO		diantara								
	drology Ind		aa la raaul	radi abaali	all that an	, nl. ()			Casanda	and Indicators (minimum of two required)
	icators (mini		ie is requi				(DO)			ary Indicators (minimum of two required)
_	e Water (A1) /ater Table (/			_	Water-Sta Aquatic Fa		` ,			face Soil Cracks (B6) inage Patterns (B10)
<u>✓</u> Flight W		42)			True Aqua					-Season Water Table (C2)
Water I	. ,				Hydrogen					yfish Burrows (C8)
	ent Deposits	(B2)						na Roots		uration Visible on Aerial Imagery (C9)
	eposits (B3)	(DZ)					ed Iron (C4	-		nted or Stressed Plants (D1)
	lat or Crust (B4)					ion in Tilled	,		omorphic Position (D2)
Iron De	,	טיי)			Thin Muck			00110 (0		C-Neutral Test (D5)
	tion Visible o	n Aerial Ir	nagery (B		Gauge or '				<u> </u>	3 (1881)
	ly Vegetated		0 , (· —	Other (Exp					
Field Obse	-				- (=/ ₁					
	ter Present?	Ye	es	No <u>/</u>	Depth (in	ches):				
Water Table				No				_		
Saturation F				No				— Wet	land Hydrolog	y Present? Yes 🗸 No
(includes ca	apillary fringe)								<u> </u>
Describe Re	ecorded Data	a (stream	gauge, mo	onitoring w	ell, aerial _l	photos, pr	evious insp	pections)	, if available:	
Remarks:										

Project/Site: Midwater BESS	City/County: Freeborn County Sampling Date: 2024-04-30
Applicant/Owner: Spearmint Renewable Development	State: Minnesota Sampling Point: WB-07-up
Investigator(s): M. Stone	Section, Township, Range: <u>sec 08 T101N R020W</u>
Landform (hillslope, terrace, etc.): Footslope	Local relief (concave, convex, none): Concave
Slope (%): 0-2 Lat: 43.560492	Long: <u>-93.264297</u> Datum: WGS84
	t slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of y	·
Are Vegetation, Soil, or Hydrology significantl	
Are Vegetation, Soil, or Hydrology naturally p	
	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No	is the Sampled Alea
Wetland Hydrology Present? Yes No	Within a Welland? Tes NO V
Remarks:	
VEGETATION – Use scientific names of plants.	
Absolute	e Dominant Indicator Dominance Test worksheet:
	Species? Status Number of Dominant Species
1. <u>Salix nigra</u> 5	
2	Total Namber of Bollinant
4	Percent of Dominant Species
5	That Are OBL, FACW, or FAC: 50.00 (A/B) = Total Cover
Sapling/Shrub Stratum (Plot size: 15)	Prevalence Index worksheet:
1	
2	
3	
4	
5	
Herb Stratum (Plot size: 5)	_ = Total Cover
1. <u>Bromus inermis</u> 90	
2	Prevalence Index = B/A = <u>3.84</u>
3	Hydrophytic Vegetation Indicators:
4	1 - Rapid Test for Hydrophytic Vegetation
5	0 0 1 1 1 2 40 01
6	4
7	data in Pemarks or on a senarate sheet)
8	— — — — — — — — — — — — — — — — — — —
9	
10	= Total Cover land cover land wetland hydrology must be present, unless disturbed or problematic.
1	
2	Πγαιορίιγας
	Present? Yes No
Remarks: (Include photo numbers here or on a separate sheet.)	_ = Total Cover
, , , , , , , , , , , , , , , , , , , ,	

SOIL Sampling Point: WB-07-up

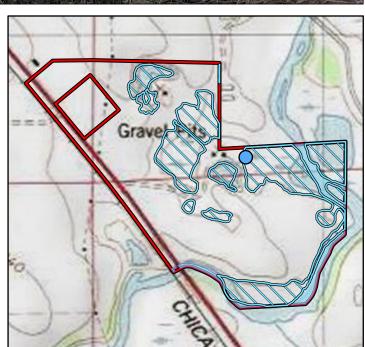
Donth	•		needed to document the indicator or c	•
Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist) % Type ¹ L	oc ² Texture Remarks
0-18	10YR 2/1	100		SL
18-24		100		0001
	10111 0/1			
				
	· -			
¹ Type: C=C	concentration, D=De	epletion, RM=F	Reduced Matrix, MS=Masked Sand Grains	. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:			Indicators for Problematic Hydric Soils ³ :
Histosol	, ,		Sandy Gleyed Matrix (S4)	Coast Prairie Redox (A16)
	pipedon (A2)		— Sandy Redox (S5)	— Dark Surface (S7)
	listic (A3) en Sulfide (A4)		Stripped Matrix (S6) Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)
	d Layers (A5)		Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (TF12)
	uck (A10)		Depleted Matrix (F3)	Other (Explain in Remarks)
	ed Below Dark Surfa	ace (A11)	Redox Dark Surface (F6)	. 1
	ark Surface (A12)		Depleted Dark Surface (F7)	³ Indicators of hydrophytic vegetation and
	Mucky Mineral (S1)		Redox Depressions (F8)	wetland hydrology must be present,
	ucky Peat or Peat (unless disturbed or problematic.
	Layer (if observed	•		
Depth (in	nches):		<u> </u>	Hydric Soil Present? Yes No 🗸
HYDROLO	OGY			
Wetland Hy	drology Indicator	s:		
Primary Indi	cators (minimum o	f one is require	d; check all that apply)	Secondary Indicators (minimum of two required)
	Water (A1)		Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
_	ater Table (A2)		Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturati	` '		True Aquatic Plants (B14)	Dry-Season Water Table (C2)
	Marks (B1)		Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
	nt Deposits (B2)		Oxidized Rhizospheres on Living I	· · —
	posits (B3) at or Crust (B4)		Presence of Reduced Iron (C4)Recent Iron Reduction in Tilled Sc	Stunted or Stressed Plants (D1) bils (C6) Geomorphic Position (D2)
_	posits (B5)		Thin Muck Surface (C7)	FAC-Neutral Test (D5)
	ion Visible on Aeria	al Imagery (B7)		<u> </u>
	y Vegetated Conca			
Sparsel		•		
Sparsel	rvations:			
		Yes No	o <u>✓</u> Depth (inches):	
Field Obser	ter Present?		D V Depth (inches): D V Depth (inches):	
Field Obser Surface Wat	ter Present? e Present?	Yes No		Wetland Hydrology Present? Yes No <u>✓</u>
Field Obser Surface Wat Water Table Saturation P (includes ca	ter Present? Present? Present? pillary fringe)	Yes No	Depth (inches): Depth (inches):	
Field Obser Surface Wat Water Table Saturation P (includes ca	ter Present? Present? Present? pillary fringe)	Yes No	Depth (inches):	
Surface Wat Water Table Saturation P (includes ca Describe Re	ter Present? Present? Present? pillary fringe)	Yes No	Depth (inches): Depth (inches):	
Field Obser Surface Wat Water Table Saturation P (includes ca Describe Re	ter Present? Present? Present? pillary fringe) ecorded Data (strea	Yes No	Depth (inches): Depth (inches):	
Surface Wat Water Table Saturation P (includes ca Describe Re	ter Present? Present? Present? pillary fringe) ecorded Data (strea	Yes No	Depth (inches): Depth (inches):	
Field Obser Surface Wat Water Table Saturation P (includes ca Describe Re	ter Present? Present? Present? pillary fringe) ecorded Data (strea	Yes No	Depth (inches): Depth (inches):	

Midwater BESS Project Delineation Site Photograph









Map Document N:0046089.001 GISI, ArdProiR0046089 040 WetlandPhotologs 202405101R0046089 040 WetlandPhotologs 2024050101R0046089 040 WetlandPhotologs 2024050101803 202405101R0046089 040 WetlandPhotologs 202405010 aprx 5/1/2024 1.23 PM MMQ adea

Project/Site: Midwater BESS	City/County: Freebor	n County Sampling Date: 2024-04-30
Applicant/Owner: Spearmint Renewable Development		State: Minnesota Sampling Point: WB-08-wet
Investigator(s): M. Stone	Section, Township, Rar	nge: sec 08 T101N R020W
Landform (hillslope, terrace, etc.): Depression	Local relief	(concave, convex, none): Concave
Slope (%): <u>0-2</u> Lat: <u>43.558105</u>	Long: -93.263211	Datum: WGS84
Soil Map Unit Name: Muskego soils, 0 to 1 percent slopes	_	
Are climatic / hydrologic conditions on the site typical for this time of ye		
Are Vegetation, Soil, or Hydrology significantly		Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally pr		eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing		
Hydrophytic Vegetation Present? Yes No		
Hydric Soil Present? Yes _ v No	is the Sampleu	
Wetland Hydrology Present? Yes No	within a wellan	nd? Yes <u>/</u> No
Remarks:		
VEGETATION – Use scientific names of plants.		
<u> </u>	e Dominant Indicator	Dominance Test worksheet:
	r Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: 2 (B)
4		Percent of Dominant Species
5	_ = Total Cover	That Are OBL, FACW, or FAC: 100.00 (A/B)
Sapling/Shrub Stratum (Plot size:)	10101 00701	Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species 30.00 x 1 = 30.00
3		FACW species 70.00 x 2 = 140.00 FAC species 0.00 x 3 = 0.00
4		FACU species 0.00 x 4 = 0.00
5	= Total Cover	UPL species $0.00 \times 5 = 0.00$
Herb Stratum (Plot size: 5)	10101 00701	Column Totals: 100.00 (A) 170.00 (B)
1. Phalaris arundinacea 70		
2. <u>Typha X glauca</u> 30		Prevalence Index = $B/A = 1.7$
3		Hydrophytic Vegetation Indicators: ✓ 1 - Rapid Test for Hydrophytic Vegetation
4		✓ 2 - Dominance Test is >50%
5		✓ 3 - Prevalence Index is ≤3.0 ¹
6		4 - Morphological Adaptations ¹ (Provide supporting
8.		data in Remarks or on a separate sheet)
9.		Problematic Hydrophytic Vegetation ¹ (Explain)
10		4
Woody Vine Stratum (Plot size: 30)	_ = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1		Hydrophytic
2		Vegetation Present? Yes <u>✓</u> No
0_	_ = Total Cover	165 <u>v</u> NU
Remarks: (Include photo numbers here or on a separate sheet.)		

SOIL Sampling Point: WB-08-wet

Depth				to aocun	nent the i	ndicator (or confir	m the absence	e of indicators.)
inches) Colo 0-2 10YR	Matrix				x Feature				
	r (moist)	%	Color (ı		%	Type ¹	_Loc ²	Texture	Remarks
2-6 10YF	2/1	100						MMI	· <u></u>
	2/2	100						cos	
6-18 N	2.5/0	95	2.5Y	4/2	5	_ D_	М	MMI	Sandy mucky mineral
18-24 N	2.5/0	100						MMI	• •
10-24 IN	2.3/0							IVIIVII	Loamy and silty
Type: C=Concentrat		etion, RM=R	educed	Matrix, MS	S=Masked	Sand Gra	ains.		ocation: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :
•	5.			Sandy C	Sloved Ma	ntriv (SA)			•
_ Histosol (A1) _ Histic Epipedon (A2)		_		Sleyed Ma				t Prairie Redox (A16)
Black Histic (A3)	,,			•	Redox (S5 I Matrix (S	,			Surface (S7)
_ Hydrogen Sulfide	(A4)			Loamy N	`	,			Manganese Masses (F12)
_ Stratified Layers				-	Gleyed Ma	, ,		-	Shallow Dark Surface (TF12)
2 cm Muck (A10)		. (111)	_		d Matrix (I Dark Surfa			Other	(Explain in Remarks)
Depleted Below IThick Dark Surface		(A11)	_	_		ice (F6) irface (F7)		³ Indicator	s of hydrophytic vegetation and
Sandy Mucky Mir					Depression				nd hydrology must be present,
5 cm Mucky Peat		3)		_		` ,			s disturbed or problematic.
estrictive Layer (if	observed):								
Туре:									
Depth (inches):								Hydric Soi	il Present? Yes <u>✓</u> No
/DROLOGY /etland Hydrology	Indicators:								
rimary Indicators (m		ne is require	d check	all that an	nlv)			Second	lary Indicators (minimum of two require
Surface Water (A		ic is required		Vater-Stai		es (R9)			rface Soil Cracks (B6)
∠ High Water Table	,			Aquatic Fa		` '			nace con cracke (Bo)
_ Saturation (A3)	. ()			True Aqua				Dia	ainage Patterns (B10)
)				lic Plants				ainage Patterns (B10) /-Season Water Table (C2)
_ water warks (b)				-lydrogen	Sulfide O	(B14)		Dry	ainage Patterns (B10) /-Season Water Table (C2) ayfish Burrows (C8)
Water Marks (B1Sediment Deposi					Sulfide O	(B14)	ng Roots	Dry Cra	/-Season Water Table (C2)
	its (B2)		(Dxidized R	Sulfide Oo thizosphe	(B14) dor (C1)	-	Dry Cra (C3) Sat	y-Season Water Table (C2) ayfish Burrows (C8)
_ Sediment Deposi _ Drift Deposits (B3	its (B2) 3)		(Oxidized R Presence o	Sulfide Oo thizosphe of Reduce	(B14) dor (C1) res on Livi	.)	Dry Cra (C3) Sat Stu	y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9)
Sediment Deposi Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5	its (B2) 3) st (B4)		(F 1	Dxidized R Presence of Recent Iron Thin Muck	Sulfide Oo thizosphe of Reduce n Reducti Surface ((B14) dor (C1) res on Livi ed Iron (C4 on in Tilleo	.)	Dry Cra (C3) Satu Stu 6) Ge	y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)
Sediment Deposi Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible	its (B2) 3) st (B4) 5) e on Aerial Ir		(F F 1	Oxidized Reresence of Recent Iron Muck Gauge or N	Sulfide Od thizosphe of Reduce n Reducti Surface (Well Data	(B14) dor (C1) res on Livi ed Iron (C4 on in Tilled (C7) (D9)	.)	Dry Cra (C3) Satu Stu 6) Ge	y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) inted or Stressed Plants (D1) omorphic Position (D2)
Sediment Deposi Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Sparsely Vegetat	its (B2) 3) st (B4) 5) e on Aerial Ir		(F F 1	Dxidized R Presence of Recent Iron Thin Muck	Sulfide Od thizosphe of Reduce n Reducti Surface (Well Data	(B14) dor (C1) res on Livi ed Iron (C4 on in Tilled (C7) (D9)	.)	Dry Cra (C3) Satu Stu 6) Ge	y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) inted or Stressed Plants (D1) omorphic Position (D2)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Sparsely Vegetat ield Observations:	its (B2) B) st (B4) b) e on Aerial Ir ed Concave	Surface (B8	(F 1 (Dxidized R Presence of Recent Iron Thin Muck Gauge or N Other (Exp	Sulfide Od thizosphe of Reduce n Reducti Surface (Well Data dain in Re	(B14) dor (C1) res on Livi ed Iron (C4 on in Tilled (C7) (D9) emarks)	.)	Dry Cra (C3) Satu Stu 6) Ge	y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) inted or Stressed Plants (D1) omorphic Position (D2)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Sparsely Vegetat ield Observations: urface Water Preser	its (B2) 3) st (B4) 5) e on Aerial Ir ed Concave	Surface (B8	(F 7 (((Dxidized R Presence of Recent Iron Thin Muck Gauge or \ Other (Exp	Sulfide Od thizosphe of Reduce n Reducti Surface (Well Data plain in Re	(B14) dor (C1) res on Livi ed Iron (C4 on in Tilleo (C7) (D9) emarks)	.)	Dry Cra (C3) Satu Stu 6) Ge	y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) inted or Stressed Plants (D1) omorphic Position (D2)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Sparsely Vegetat ield Observations: urface Water Present?	ots (B2) B) St (B4) C) Si on Aerial Inded Concave Control Ye	Surface (B8	(Dxidized Represence of Recent Iron Muck Gauge or Nother (Exponent) Depth (incomplete (incomplete)	Sulfide Odhizosphe of Reduce on Reducti Surface (Well Data alain in Re ches):	(B14) dor (C1) res on Livi ed Iron (C4 on in Tilled (C7) (D9) emarks)	d Soils (C	Dry Cra (C3) Sal Stu 6) Ge FA	y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2) C-Neutral Test (D5)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Sparsely Vegetat ield Observations: urface Water Present/ater Table Present?	its (B2) 3) st (B4) 5) e on Aerial Ir ed Concave nt? Ye Ye	Surface (B8	(Dxidized Represence of Recent Iron Muck Gauge or Nother (Exponent) Depth (incomplete (incomplete)	Sulfide Odhizosphe of Reduce on Reducti Surface (Well Data alain in Re ches):	(B14) dor (C1) res on Livi ed Iron (C4 on in Tilled (C7) (D9) emarks)	d Soils (C	Dry Cra (C3) Sal Stu 6) Ge FA	y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) inted or Stressed Plants (D1) omorphic Position (D2)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Sparsely Vegetat ield Observations: urface Water Present	its (B2) 3) st (B4) 5) e on Aerial Ir ed Concave nt? Ye Ye ge)	es No	() ()	Dxidized Represence of Recent Iron Muck Gauge or Nother (Exposer) Depth (incompett (incompett) (incompett)	Sulfide Od thizosphe of Reduce n Reducti Surface (Well Data plain in Reches):ches):ches):ches):ches):ches):ches):ches	(B14) dor (C1) res on Livi ed Iron (C4 on in Tilled (C7) (D9) emarks)	d Soils (C	Dry Cra (C3) Stu 6) FA	y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2) C-Neutral Test (D5)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Sparsely Vegetatield Observations: urface Water Present/ater Table Present? aturation Present? ncludes capillary frin	its (B2) 3) st (B4) 5) e on Aerial Ir ed Concave nt? Ye Ye ge)	es No	() ()	Dxidized Represence of Recent Iron Muck Gauge or Nother (Exposer) Depth (incompett (incompett) (incompett)	Sulfide Od thizosphe of Reduce n Reducti Surface (Well Data plain in Reches):ches):ches):ches):ches):ches):ches):ches	(B14) dor (C1) res on Livi ed Iron (C4 on in Tilled (C7) (D9) emarks)	d Soils (C	Dry Cra (C3) Stu 6) FA	y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2) C-Neutral Test (D5)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus _ Iron Deposits (B5 Inundation Visible Sparsely Vegetat ield Observations: urface Water Present/ater Table Present? aturation Present? ncludes capillary frin escribe Recorded D	its (B2) 3) st (B4) 5) e on Aerial Ir ed Concave nt? Ye Ye ge)	es No	() ()	Dxidized Represence of Recent Iron Muck Gauge or Nother (Exposer) Depth (incompett (incompett) (incompett)	Sulfide Od thizosphe of Reduce n Reducti Surface (Well Data plain in Reches):ches):ches):ches):ches):ches):ches):ches	(B14) dor (C1) res on Livi ed Iron (C4 on in Tilled (C7) (D9) emarks)	d Soils (C	Dry Cra (C3) Stu 6) FA	y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2) C-Neutral Test (D5)

Project/Site: Midwater BESS	_ City/County	y: <u>Freebor</u>	n County Sampling Date: 2024-04-30
Applicant/Owner: Spearmint Renewable Development			State: Minnesota Sampling Point: WB-08-up
Investigator(s): M. Stone	_ Section, To	ownship, Rai	nge: sec 08 T101N R020W
Landform (hillslope, terrace, etc.): Headslope		Local relief	(concave, convex, none): Convex
Slope (%): <u>3-7</u> Lat: <u>43.558125</u>	Long: <u>-93</u>	.263314	Datum: WGS84
Soil Map Unit Name: Pits, sand and gravel			
Are climatic / hydrologic conditions on the site typical for this time of y			
Are Vegetation, Soil, or Hydrology significant	-		Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally p	-		eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showin		ng point le	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	1- 41	0 1 1	
Hydric Soil Present? Yes No	15 (1	he Sampled nin a Wetlar	
Wetland Hydrology Present? Yes No	_ Witi	iiii a vvetiai	iu: 165 NO
Remarks:			
VEGETATION – Use scientific names of plants.			
Absolut		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:	er Species?		Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2			Total Number of Dominant Species Across All Strata:1 (B)
4. 5.			Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
0	= Total Co	ver	
Sapling/Shrub Stratum (Plot size: 15)			Prevalence Index worksheet:
1			
2			FACW species 0.00 x 1 = 0.00 FACW species 0.00 x 2 = 0.00
3			FAC species 70.00 x 3 = 210.00
5			FACU species <u>25.00</u> x 4 = <u>100.00</u>
0	= Total Co	ver	UPL species <u>5.00</u> x 5 = <u>25.00</u>
Herb Stratum (Plot size: 5)	.,	=	Column Totals: <u>100.00</u> (A) <u>335.00</u> (B)
1. Poa pratensis 70	_ <u>Y</u>	FAC	Prevalence Index = B/A = 3.35
-	<u>N</u> N	<u>FACU</u> <u>FACU</u>	Hydrophytic Vegetation Indicators:
•	N	UPL	1 - Rapid Test for Hydrophytic Vegetation
5			✓ 2 - Dominance Test is >50%
6			3 - Prevalence Index is ≤3.0 ¹
7			4 - Morphological Adaptations ¹ (Provide supporting
8			data in Remarks or on a separate sheet)
9			Problematic Hydrophytic Vegetation ¹ (Explain)
10			The disease of budgie call and watered budgetons are
Woody Vine Stratum (Plot size: 30)	0_ = Total Co		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1		 	Hydrophytic
2		·	Vegetation Present? Yes <u>✓</u> No
0_	= Total Co	ver	
Remarks: (Include photo numbers here or on a separate sheet.)			

SOIL Sampling Point: WB-08-up

		firm the absence of indicators.)
Depth Matrix (inches) Color (moist) %	Redox Features Color (moist) % Type ¹ Loc ²	
	Color (moist)	
0-6 10YR 4/4 100		COS
<u>6-20</u> <u>10YR 3/6</u>		COS
<u>20-24</u> <u>10YR 3/4</u> <u>100</u>		COS
¹ Type: C=Concentration, D=Depletion, RM=	Reduced Matrix MS=Masked Sand Grains	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:	reduced matrix, we madded darid Grains.	Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4)	Coast Prairie Redox (A16)
Histic Epipedon (A2)	— Sandy Redox (S5)	— Dark Surface (S7)
Black Histic (A3)	Stripped Matrix (S6)	,
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)Very Shallow Dark Surface (TF12)
Stratified Layers (A5) 2 cm Muck (A10)	Loamy Gleyed Matrix (F2)Depleted Matrix (F3)	Other (Explain in Remarks)
2 cm Muck (A10) Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	Guior (Explain in Nomano)
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	wetland hydrology must be present,
5 cm Mucky Peat or Peat (S3)		unless disturbed or problematic.
Restrictive Layer (if observed):		
Type:		_
Depth (inches):	<u> </u>	Hydric Soil Present? Yes No 🗸
HYDROLOGY		
Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is requir	• • • • • • • • • • • • • • • • • • • •	Secondary Indicators (minimum of two required)
Surface Water (A1)	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9)Aquatic Fauna (B13)	Surface Soil Cracks (B6)Drainage Patterns (B10)
Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9)Aquatic Fauna (B13)True Aquatic Plants (B14)	Surface Soil Cracks (B6)Drainage Patterns (B10)Dry-Season Water Table (C2)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	 Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) 	Surface Soil Cracks (B6)Drainage Patterns (B10)Dry-Season Water Table (C2)Crayfish Burrows (C8)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	 Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Rock 	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	 Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) 	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roc Presence of Reduced Iron (C4)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) (C6) Geomorphic Position (D2)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Gauge or Well Data (D9)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) (C6) Geomorphic Position (D2)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Gauge or Well Data (D9)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) (C6) Geomorphic Position (D2)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7 Sparsely Vegetated Concave Surface (EField Observations: Surface Water Present? Yes N	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7)) Gauge or Well Data (D9) 88) Other (Explain in Remarks)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) (C6) Geomorphic Position (D2)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7 Sparsely Vegetated Concave Surface (E Field Observations: Surface Water Present? Yes N Water Table Present? Yes N	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) (C6) Geomorphic Position (D2) FAC-Neutral Test (D5)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7 Sparsely Vegetated Concave Surface (E Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present? Yes N	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) (C6) Geomorphic Position (D2)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7 Sparsely Vegetated Concave Surface (EField Observations: Surface Water Present? Yes N Water Table Present? Yes N Saturation Present? Yes N	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) (C6) Geomorphic Position (D2) FAC-Neutral Test (D5)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7 Sparsely Vegetated Concave Surface (EField Observations: Surface Water Present? Yes N Water Table Present? Yes N Saturation Present? Yes N	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Rod Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) (C6) Geomorphic Position (D2) FAC-Neutral Test (D5)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7 Sparsely Vegetated Concave Surface (E Field Observations: Surface Water Present? Yes N Water Table Present? Yes N Saturation Present? Yes N (includes capillary fringe) Describe Recorded Data (stream gauge, mo	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) (C6) Geomorphic Position (D2) FAC-Neutral Test (D5)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7 Sparsely Vegetated Concave Surface (EField Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, mo	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) (C6) Geomorphic Position (D2) FAC-Neutral Test (D5)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7 Sparsely Vegetated Concave Surface (E Field Observations: Surface Water Present? Yes N Water Table Present? Yes N Saturation Present? Yes N (includes capillary fringe) Describe Recorded Data (stream gauge, mo	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) (C6) Geomorphic Position (D2) FAC-Neutral Test (D5)
Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7 Sparsely Vegetated Concave Surface (E Field Observations: Surface Water Present? Yes N Water Table Present? Yes N Saturation Present? Yes N Saturation Present? Yes N (includes capillary fringe) Describe Recorded Data (stream gauge, mo	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) ots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) (C6) Geomorphic Position (D2) FAC-Neutral Test (D5)

Westwood

Appendix B

Non-Wetland Data Forms & Photographs

Midwater BESS

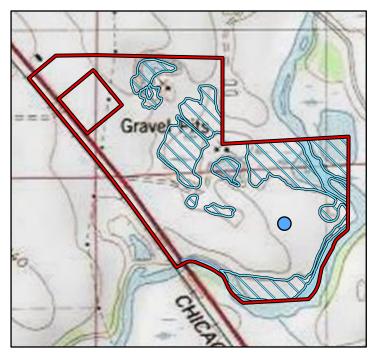
Shell Rock Township, Freeborn County, Minnesota

Midwater BESS Project Delineation Site Photograph









Map Document N;0046089.001 GISI Arch-0/R0046089 040 WetlandPhotologs 20240510/R0046089 040 WetlandPhotologs 2024050/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologs 2024060/R0046089 040 WetlandPhotologo 2024060/R0046089 040 WetlandPhotologo

Project/Site: Midwater BESS	City/Co	unty: <u>Freebor</u>	n County Sampling Date: 2024-04-29
Applicant/Owner: Spearmint Renewable Development			State: Minnesota Sampling Point: NW-01
Investigator(s): M. Stone, C. Gunn	Section	n, Township, Rai	nge: sec 17 T101N R020W
Landform (hillslope, terrace, etc.): Depression		•	
Slope (%): <u>0-2</u> Lat: <u>43.556092</u>			•
	_		NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time			
	-		
Are Vegetation, Soil, or Hydrology signific			Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology natural	lly problemat	ic? (If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map show	wing sam _l	oling point le	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	,		
Hydric Soil Present? Yes No	,	Is the Sampled	
Wetland Hydrology Present? Yes No		within a Wetlan	nd? Yes No
Remarks:	<u> </u>		
VEGETATION – Use scientific names of plants.			
		nant Indicator	Dominance Test worksheet:
1		es? Status	Number of Dominant Species That Are OBL, FACW, or FAC:1(A)
2			
3			Total Number of Dominant Species Across All Strata: 3 (B)
4			
5			Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)
	0 = Tota	l Cover	
Sapling/Shrub Stratum (Plot size: 15)			Prevalence Index worksheet:
1			
2			OBL species $0.00 \times 1 = 0.00$ FACW species $0.00 \times 2 = 0.00$
3			FAC species 50.00 x 3 = 150.00
4			FACU species 105.00 x 4 = 420.00
	0 = Tota	L Cover	UPL species 0.00 x 5 = 0.00
Herb Stratum (Plot size: 5)	<u>0</u> 10ta	1 00001	Column Totals: <u>155.00</u> (A) <u>570.00</u> (B)
1. Bromus inermis 5	<u>50 Y</u>	<u>FACU</u>	
2. <u>Poa pratensis</u> 3	<u>30 Y</u>	<u>FAC</u> _	Prevalence Index = B/A = 3.68
		<u>FACU</u>	Hydrophytic Vegetation Indicators:
	<u>20 N</u>		1 - Rapid Test for Hydrophytic Vegetation
	<u>20 N</u>		2 - Dominance Test is >50%
	<u> 10 N</u>		3 - Prevalence Index is ≤3.0¹
	<u>5 N</u>		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8			Problematic Hydrophytic Vegetation ¹ (Explain)
9			
10	55.0 = Tota		¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 30)	101a	Cover	be present, unless disturbed or problematic.
1			Hydrophytic
2			Vegetation
	0 = Tota	l Cover	Present? Yes No
Remarks: (Include photo numbers here or on a separate sheet.)		OUVE	

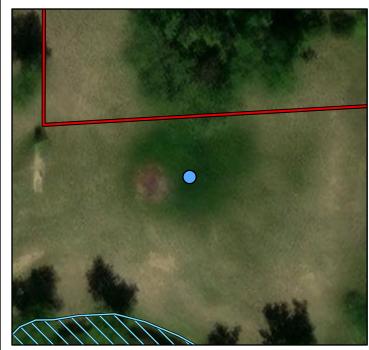
SOIL Sampling Point: NW-01

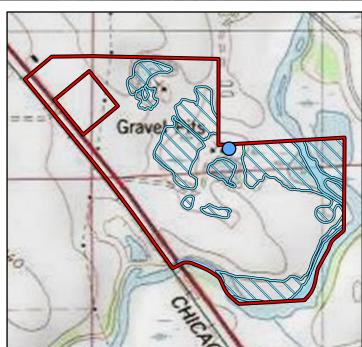
Depth		Matrix			Redox Fe	atures		_	e of indicators.)
(inches)	Color (moist)	%	Color (n	noist)	% Type	e ¹ Loc ²	<u>Texture</u>	Remarks
0-24	<u>10YR</u>	2/1	100					L	
24-28	<u>10YR</u>	2/2	100					FSL	Some silty inclusions
		_							
								<u> </u>	-
-					· · · · · · · · · · · · · · · · · · ·			-	
1- 0 0								2,	
Hydric Soil			etion, RIVI=I	Reduced N	Matrix, MS=M	asked Sand	Grains.		cation: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :
Histosol					Sandy Gleye	ed Matrix (S	4)		: Prairie Redox (A16)
—	pipedon (A2	2)			Sandy Redo		*)		
	istic (A3)	,			Stripped Ma	` '			Surface (S7)
	en Sulfide (A			_	Loamy Mucl				Manganese Masses (F12)
	d Layers (A	5)		_		ed Matrix (F.	2)	•	Shallow Dark Surface (TF12)
	uck (A10) d Below Da	rk Surface	· (A11)	_	Depleted Ma Redox Dark	. ,	`	Other	(Explain in Remarks)
-	ark Surface		ε (Δ11)			ark Surface (•	3Indicator	s of hydrophytic vegetation and
	Mucky Mine	. ,				essions (F8)			nd hydrology must be present,
	ucky Peat o							unless	s disturbed or problematic.
Restrictive	Layer (if ob	served):							
, , <u> </u>									
Depth (in Remarks:	ches):							Hydric Soi	I Present? Yes No 🗸
riyano o			to dam		her due t	.o dagoi	10119411		
HYDROLO									
Wetland Hy			! !					Casand	
			ne is require		all that apply)		<u> </u>		ary Indicators (minimum of two required)
	Water (A1) ater Table (<i>I</i>				/ater-Stained quatic Fauna)		face Soil Cracks (B6) ainage Patterns (B10)
Saturati		~ ~)			rue Aquatic F				y-Season Water Table (C2)
Water N	, ,				ydrogen Sulfi		1)	-	ayfish Burrows (C8)
	nt Deposits	(B2)			xidized Rhizo	•	•	· · · · · · · · · · · · · · · · · · ·	turation Visible on Aerial Imagery (C9)
Drift De	posits (B3)			P	resence of R	educed Iron	(C4)	Stu	nted or Stressed Plants (D1)
Algal Ma		B4)		R	ecent Iron Re	eduction in T	illed Soils (C	C6) <u>v</u> Geo	omorphic Position (D2)
Iron De					hin Muck Sur			FA	C-Neutral Test (D5)
Inundati					auge or Well				
	y Vegetated	Concave	Surface (B	8) 0	ther (Explain	in Remarks)		
Field Obser) V	aa N	a .4 [Conth (inches	٠.			
Surface Wat					Depth (inches	,			
Water Table					Depth (inches			tland Hydralaa	w Brogent? Vec No V
Saturation P (includes ca	pillary fringe	e)			Depth (inches				gy Present? Yes No 🗸
Describe Re	corded Data	a (stream	gauge, mor	nitoring we	ll, aerial phot	os, previous	inspections)), if available:	
Remarks:									

Midwater BESS Project Delineation Site Photograph









Map Document N:0046089.001 GISI, ArdProiR0046089 040 WetlandPhotologs 202405101R0046089 040 WetlandPhotologs 202405010R0046089 040 WetlandPhotologs 202405010Bapx 5/1/2024 1.28 PM MMQuade

Project/Site: Midwater BESS	City/Co	unty: <u>Fı</u>	reebori	County Sampling Date: 2024-04-29
Applicant/Owner: Spearmint Renewable Development				State: Minnesota Sampling Point: NW-02
Investigator(s): M. Stone, C. Gunn	Section	n, Towns	ship, Ran	ge: sec 08 T101N R020W
Landform (hillslope, terrace, etc.): Rise		Loca	al relief (concave, convex, none): Convex
Slope (%): <u>0-2</u> Lat: <u>43.558246</u>	Long: -	-93.263	3813	Datum: WGS84
Soil Map Unit Name: Pits, sand and gravel	_			
Are climatic / hydrologic conditions on the site typical for this time of				
Are Vegetation, Soil, or Hydrology significar	-			Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally				eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi				
Hydrophytic Vegetation Present? Yes No		0		
Hydric Soil Present? Yes No			ampled . a Wetlan	
Wetland Hydrology Present? Yes No		within a	a vvetiaii	ur res NO
Remarks:				
VEGETATION – Use scientific names of plants.				
Absolu		nant Ind		Dominance Test worksheet:
Tree Stratum (Plot size:	ver Spec			Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2				Total Number of Dominant Species Across All Strata: (B)
4. 5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
	= Tota	I Cover	-	
Sapling/Shrub Stratum (Plot size:15				Prevalence Index worksheet: Total % Cover of: Multiply by:
1				OBL species 0.00 x 1 = 0.00
2				FACW species $0.00 \times 2 = 0.00$
4.			,	FAC species 30.00 x 3 = 90.00
5				FACU species 60.00 x 4 = 240.00
0	= Tota			UPL species <u>0.00</u> x 5 = <u>0.00</u>
Herb Stratum (Plot size: 5)		_		Column Totals: <u>90.00</u> (A) <u>330.00</u> (B)
1. Bromus inermis 60 2. Poa pratensis 30) Y		ACU FAC	Prevalence Index = B/A = 3.67
3			-	Hydrophytic Vegetation Indicators:
4				Rapid Test for Hydrophytic Vegetation
5				2 - Dominance Test is >50%
6.				3 - Prevalence Index is ≤3.0 ¹
7				 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
8				Problematic Hydrophytic Vegetation¹ (Explain)
9				— Froblematic Hydrophytic Vegetation (Explain)
10				¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 30)	<u>0 </u> = Tota		-	be present, unless disturbed or problematic.
1				Hydrophytic
2				Vegetation Present? Yes No
0	= Tota	l Cover		rieseitt: 165NO
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL Sampling Point: NW-02

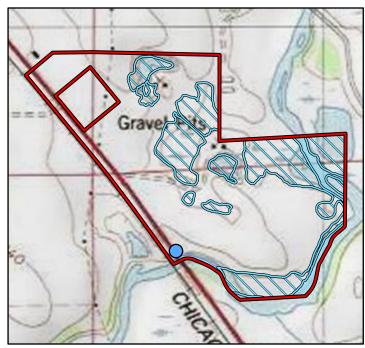
	th needed to document the indicator or c	ommin the about to an indicator of
Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type ¹ Lo	oc ² <u>Texture</u> <u>Remarks</u>
<u>0-4</u> <u>10YR 2/2 100</u>		COSL
4-8 10YR 3/2 100		COSL Gravel inclusions
<u>8-16</u> <u>10YR 2/2</u> <u>100</u>		SL Gravel inclusions
1		2
¹ Type: C=Concentration, D=Depletion, RM=	Reduced Matrix, MS=Masked Sand Grains.	
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gleyed Matrix (S4)	Coast Prairie Redox (A16)
Histic Epipedon (A2)	— Sandy Redox (S5)	— Dark Surface (S7)
Black Histic (A3) Hydrogen Sulfide (A4)	Stripped Matrix (S6) Loamy Mucky Mineral (F1)	Iron-Manganese Masses (F12)
Stratified Layers (A5)	Loamy Gleyed Matrix (F2)	Very Shallow Dark Surface (TF12)
2 cm Muck (A10)	Depleted Matrix (F3)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	wetland hydrology must be present,
5 cm Mucky Peat or Peat (S3)		unless disturbed or problematic.
Restrictive Layer (if observed):		
Type: Fill/rock	<u></u>	
Depth (inches): 16		Hydric Soil Present? Yes No ✔
Remarks:		
HYDROLOGY		
HYDROLOGY Wetland Hydrology Indicators:		
Wetland Hydrology Indicators:	ed: check all that apply)	Secondary Indicators (minimum of two required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required)	.,	Secondary Indicators (minimum of two required) Surface Soil Cracks (R6)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requir Surface Water (A1)	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requir Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) Aquatic Fauna (B13)	Surface Soil Cracks (B6)Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requir Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9)Aquatic Fauna (B13)True Aquatic Plants (B14)	Surface Soil Cracks (B6)Drainage Patterns (B10)Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	 Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) 	Surface Soil Cracks (B6)Drainage Patterns (B10)Dry-Season Water Table (C2)Crayfish Burrows (C8)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	 Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living F 	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living F	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required in the surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled So	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) sils (C6) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled So	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled So Thin Muck Surface (C7) Gauge or Well Data (D9)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) sils (C6) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required in Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (E8)	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled So Thin Muck Surface (C7) Gauge or Well Data (D9)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) sils (C6) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (E)	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living F Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled So Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) sils (C6) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (E7) Field Observations: Surface Water Present? Yes N	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Factor of Reduced Iron (C4) Recent Iron Reduction in Tilled Soal Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) sils (C6) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Field Observations: Surface Water Present? Water Table Present? Yes N	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Facet of Reduced Iron (C4) Recent Iron Reduction in Tilled Soal Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) No	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) oils (C6) Geomorphic Position (D2) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Field Observations: Surface Water Present? Water Table Present? Yes Saturation Present?	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Factor of Reduced Iron (C4) Recent Iron Reduction in Tilled Soal Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) sils (C6) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Field Observations: Surface Water Present? Water Table Present? Yes N	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled So Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Outline Depth (inches): Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) oils (C6) Geomorphic Position (D2) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Field Observations: Surface Water Present? Water Table Present? Yes No Saturation Present? Yes No Saturation Present? Yes No Saturation Present?	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled So Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Outline Depth (inches): Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) oils (C6) Geomorphic Position (D2) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Field Observations: Surface Water Present? Yes Now the control of the cont	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled So Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Outline Depth (inches): Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) oils (C6) Geomorphic Position (D2) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Field Observations: Surface Water Present? Water Table Present? Yes No Saturation Present? Yes No Saturation Present? Yes No Saturation Present? Yes No Saturation Present?	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled So Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Outline Depth (inches): Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) oils (C6) Geomorphic Position (D2) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Field Observations: Surface Water Present? Yes Now the control of the cont	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled So Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Outline Depth (inches): Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) oils (C6) Geomorphic Position (D2) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Field Observations: Surface Water Present? Yes No Saturation Present? Yes No Saturatio	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled So Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks) Outline Depth (inches): Depth (inches): Depth (inches):	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) oils (C6) Geomorphic Position (D2) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No

Midwater BESS Project Delineation Site Photograph









Map Document N:0046089.00, GIS1 ArdPro1R0046089 040 WeilandPhotologs 202405101R0046089 040 WeilandPhotologs 20240510R0046089 040 WeilandPhotologs 20240510R0046089 128 PM MMQuad

Project/Site: Midwater BESS	City/County: Freebor	n County Sampling Date: 2024-04-30
Applicant/Owner: Spearmint Renewable Development		State: Minnesota Sampling Point: NW-03
Investigator(s): M. Stone	Section, Township, Rai	nge: sec 17 T101N R020W
Landform (hillslope, terrace, etc.): <u>Ditch</u>	Local relief	(concave, convex, none): Concave
Slope (%): <u>0-2</u> Lat: <u>43.555223</u>	Long: -93.265921	Datum: WGS84
Soil Map Unit Name: Kalmarville loam, frequently flooded		
Are climatic / hydrologic conditions on the site typical for this time of		
Are Vegetation, Soil, or Hydrology significar		
Are Vegetation, Soil, or Hydrology naturally	-	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi		
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No	is the Sampled	
Wetland Hydrology Present? Yes No		nd? Yes No
Remarks:	I	
VEGETATION – Use scientific names of plants.		
Absolu		Dominance Test worksheet:
	ver Species? Status	Number of Dominant Species
1. <u>Fraxinus americana</u> 10 2. <u>Populus deltoides</u> 5		That Are OBL, FACW, or FAC:1 (A)
3.		Total Number of Dominant Species Across All Strata:
4.		Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)
	0 = Total Cover	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size:15) 1		Total % Cover of: Multiply by:
2.		OBL species $0.00 \times 1 = 0.00$
3.		FACW species 0.00 x 2 = 0.00
4		FAC species <u>5.00</u> x 3 = <u>15.00</u>
5		FACU species <u>100.00</u> x 4 = <u>400.00</u>
	= Total Cover	UPL species <u>0.00</u> x 5 = <u>0.00</u>
Herb Stratum (Plot size: 5) 1. Bromus inermis 90	V EACH	Column Totals: <u>105.00</u> (A) <u>415.00</u> (B)
2		Prevalence Index = B/A = 3.95
3		Hydrophytic Vegetation Indicators:
4		1 - Rapid Test for Hydrophytic Vegetation
5		2 - Dominance Test is >50%
6		3 - Prevalence Index is ≤3.0 ¹
7		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8		- Problematic Hydrophytic Vegetation ¹ (Explain)
9		— Problematic Hydrophytic Vegetation (Explain)
10		¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 30)	0 = Total Cover	be present, unless disturbed or problematic.
1		Hydrophytic
2		Vegetation Present? Yes No _ ✓
0_	= Total Cover	11036Ht: 163NU
Remarks: (Include photo numbers here or on a separate sheet.)		

SOIL Sampling Point: <u>NW-03</u>

Depth		Matrix	.o tile dept	h needed to document the indic Redox Features		the absence	or maioators.j		
(inches)	Color (moist)	<u>%</u>	Color (moist) % Ty	pe ¹ Loc ²	Texture	Remarks		
0-16	<u>10YR</u>	2/2	100			SIL			
16-24	10YR	3/2	100			SIL			
	-								
	-						-		
1 _T 0_0		- D-DI		Dadward Matrix, MC-Marked Con		21	etien, DI - Dave Lining, M-Metric		
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=M Hydric Soil Indicators:				Reduced Matrix, MS=Masked Sar	id Grains.	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :			
Histoso		•		Sandy Gleyed Matrix	(S4)		Prairie Redox (A16)		
	pipedon (A2	2)		Sandy Redox (S5)	(0.)	— Dark Surface (S7)			
	istic (A3)			Stripped Matrix (S6)		` '			
	en Sulfide (A			Loamy Mucky Mineral	. ,	Iron-Manganese Masses (F12)			
	d Layers (A	5)		Loamy Gleyed Matrix	(F2)	Very Shallow Dark Surface (TF12)			
	uck (A10) d Below Da	rk Curfood	\((\(1 \) \)	Depleted Matrix (F3) Redox Dark Surface (-6)	Otner (Explain in Remarks)		
	ark Surface		(711)	Redox Dark Surface (,	³ Indicators	of hydrophytic vegetation and		
	Mucky Mine	` ,		Redox Depressions (F		wetland hydrology must be present,			
	ucky Peat o		3)		,		disturbed or problematic.		
Restrictive	Layer (if ob	served):							
Type:									
Depth (in	iches):			<u></u>		Hydric Soil	Present? Yes No 🗸		
HYDROLO)GY								
Wetland Hy		dicators:							
Primary Indi	cators (mini	mum of o	ne is require	ed; check all that apply)		Seconda	ry Indicators (minimum of two required)		
Surface	Water (A1)			Water-Stained Leaves (E	39)	Surfa	ace Soil Cracks (B6)		
High W	ater Table (A2)		Aquatic Fauna (B13)		Drainage Patterns (B10)			
Saturation (A3) True Aquatic Plants (B14)					Dry-Season Water Table (C2)				
	/larks (B1)			Hydrogen Sulfide Odor (-	fish Burrows (C8)		
	nt Deposits	(B2)		Oxidized Rhizospheres of	-		ration Visible on Aerial Imagery (C9)		
	posits (B3)	(D.4.)		Presence of Reduced Iro			ted or Stressed Plants (D1)		
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6					morphic Position (D2) -Neutral Test (D5)				
Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9)				1	FAC	-Neutral Test (D3)			
	y Vegetated			-					
Field Obser			(2		,				
Surface Wa	ter Present?	Y	es N	lo Depth (inches):					
Water Table				lo Depth (inches):					
Saturation F			es N	lo _ 🗸 Depth (inches):	Wetla	nd Hydrology	Present? Yes No 🗸		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Percuipe I/6	Jorden Date	a (olloaili	gaage, moi	moning won, acriai priotos, previol	mopeodono, n	available.			
Remarks:									
None other observed.									

Westwood

Appendix C

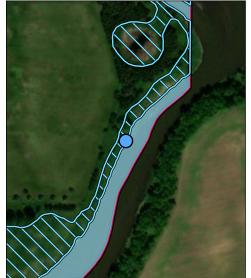
Watercourse Data Forms & Photographs

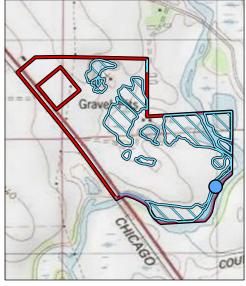
Midwater BESS

Shell Rock Township, Freeborn County, Minnesota

Midwater BESS Project Watercourse Photograph













Midwater BESS Project Watercourse Data Form



Attributes				
Feature ID	WC-01			
Defined Bed & Bank	Yes			
Mapped on NHD	Yes			
Mapped on NWI	Yes			
Investigator				
Flow Characteristics	Perennial			
Direction of the Flow	S			
Water Width at Observation Point (ft)	50			
Water Depth at Observation Point (ft)	15			
Left Bank Height (ft) - Looking Downstream	3			
Right Bank Height (ft) - Looking Downstream	4			
OHWM Width (ft)	50+			
OHWM Height (ft from Substrate)	12			
Evidence of Scour or Erosion	Yes			
OHWM Criteria	Bed and banks			
Pools, Riffles, Runs Present?	Riffles			
Substrate	Clay			



Westwood

Appendix D

Offsite Hydrology Review

Midwater BESS

Shell Rock Township, Freeborn County, Minnesota

Hydrology Assessment with Aerial Imagery-Recording Form¹

Project Name: <u>Midwater BESS</u> Date: <u>03/08/2024</u> County: <u>Freeborn</u>
Investigator: M. Stone Legal Description (S, T, R): 08/17-101N-20W

Summary Table

Photo Year ²	Image Source ²	Actual/ Estimated Photo	Climate condition (wet, dry,		etation (l ed, e.g. cr			
		Date ³	normal) ^{4,5}	SA-01	SA-02	SA-03		
2003	NAIP	07/18/2003	Normal	CS	CS	NV		
2005	NAIP	06/22/2005	Normal	CS	CS	CS		
2006	NAIP	07/18/2006	Dry	CS	NV	CS		
2008	NAIP	08/30/2008	Normal	DO	DO	NV		
2009	NAIP	06/13/2009	Normal	CS	CS	NV		
2010	NAIP	10/28/2010	Normal	SW, DO	NV	NV		
2013	NAIP	07/12/2013	Wet	CS (sm)	NV	NV		
2015	NAIP	09/30/2015	Wet	CS	CS	CS (sm)		
2017	NAIP	09/20/2017	Normal	NC, WS	NC, WS	NC, WS		
2019	NAIP	07/27/2019	Normal	CS, AP	AP	AP, CS		
2021	NAIP	08/14/2021	Dry	NV	NV	NV		
2023*	NAIP	07/30/2023	Dry	CS	CS	CS		

Summary Table

	SA-01	SA-02	SA-03
# Years of aerial photography	13	13	13
# Normal Years (1991-2017)	8	8	8
# signatures in Normal years	7	6	3
# signatures in Wet years	2	2	1
# Signatures in Dry years	2	1	2
# signatures in all years	11	9	6
% Usable Yrs with wet signatures ⁷	7/8 = 87.5%	6/8 = 75%	3/8 = 37.5%

(sm)= smaller area than whole area showed signature

Definitions

WS-wetland signature CS-crop stress SGO-something going on	DO-drowned out NC-not cropped SS- soil wetness signature	SW-standing water AP-altered pattern DP-drainage pattern	NV-normal vegetative cover DNC-dry not cropped NSS- no soil wetness (sm)- smaller area			
WS is typically used for interpretation in non-cropped areas or green areas in dry conditions						

¹ Form adapted from BWSR/USACE Technical Guidance, July 1, 2016.

²Photo selection for historical aerial photography review are from the MnGEO WMS GIS server, Google Earth, and GIS sources such as County, watersheds, or cities.

³July 1 was used as the date for aerial photographs when determining antecedent precipitation when an actual date could not be determined. Other aerial photography from County GIS, Google imagery, NAIP, etc. was dated based on available information.

⁴MN State Climatology website used to produce three-prior-month (NRCS) method for parcel being investigated.

⁵Photo dates at the end of the month were advanced to the next month to determine climate conditions using the NRCS/3-prior-month method if the daily precipitation data from that month warranted it.

⁶Key below is used label photo interpretations. It is imperative the reviewer read and understand the guidance associated with the use of the labels.

⁷Equal number of most recent wet and dry years used if 5 normal years were not available. Otherwise only Normal years.

^{*}Base photo for suspect areas

Wetland Determination from Aerial Imagery - Recording Form

Project Name: Midwater BESS		Date: 03/11/2024	County:	Freeborn		
Investigator:	M. Stone	Legal Description (T, R, S):	101N	20W	17	

Use the Decision Matrix below to complete Table 1.

Hydric Soils present ¹	Identified on NWI or other wetland map ²	Percent with wet signatures from Exhibit 1	signatures from	
Yes	Yes	>50%	No	Yes
Yes	Yes	30-50%	No	Yes
Yes	Yes	<30%	Yes	Yes, if other hydrology indicators present
Yes	No	>50%	No	Yes
Yes	No	30-50%	Yes	Yes, if other hydrology indicators present
Yes	No	<30%	No	No
No	Yes	>50%	No	Yes
No	Yes	30-50%	No	Yes
No	Yes	<30%	No	No
No	No	>50%	Yes	Yes, if other hydrology indicators present
No	No	30-50%	Yes	Yes, if other hydrology indicators present
No	No	<30%	No	No

¹The presence of hydric soils can be determined from the "Hydric Rating by Map Unit Feature" under "Land Classifications" from the Web Soil Survey. "Not Hydric" is the only category considered to not have hydric soils. Field sampling for the presence/absence of hydric soil indicators can be used in lieu of the hydric rating if appropriately documented by providing completed field data sheets.

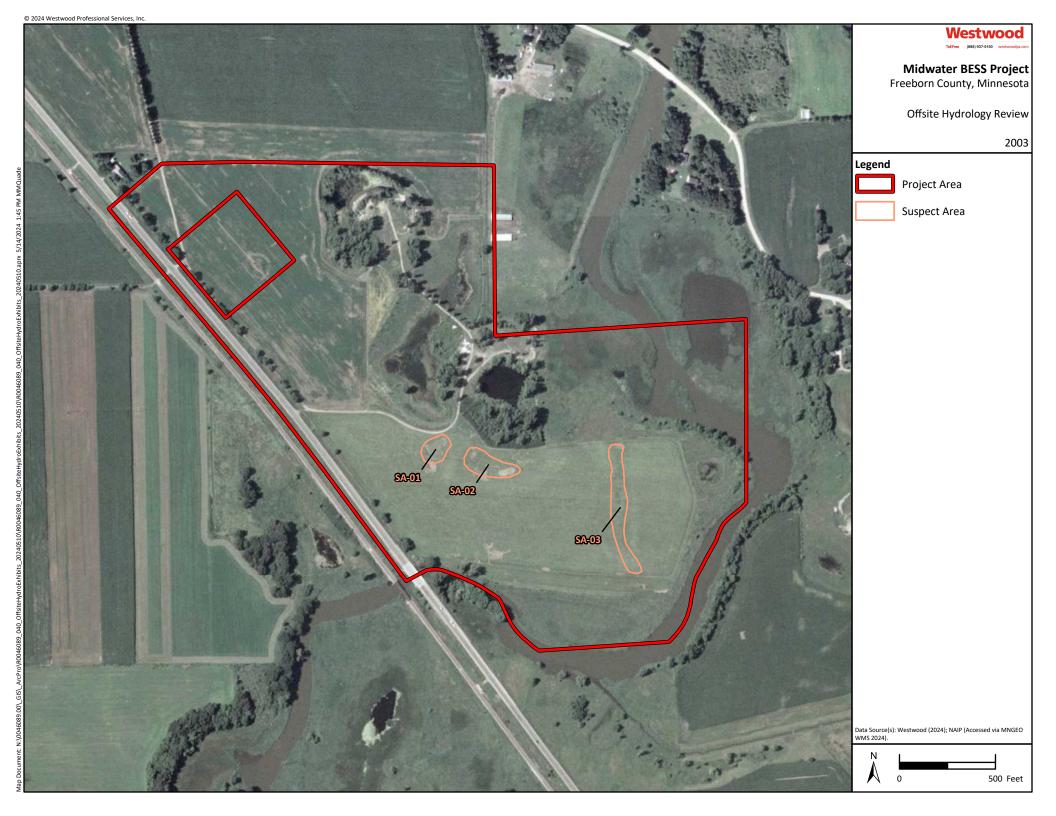
Table 1.

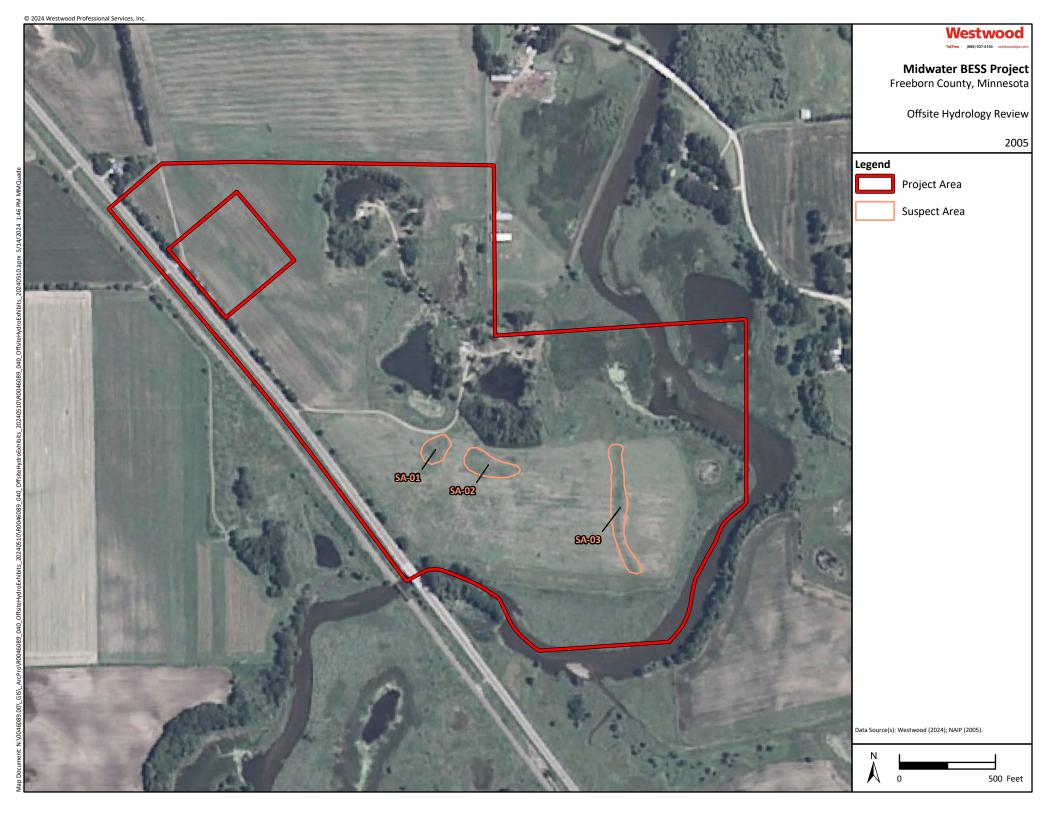
Suspect Area	Hydric Soils Present	Identified on NWI or other wetland map	Percent with wet signatures from Exhibit 1	Other hydrology indicators present ¹	Wetland?
1	Yes	No	87.5		Yes
2	Yes	No	75		Yes
3	Yes	No	37.5		Yes, if other hydrology indicators present

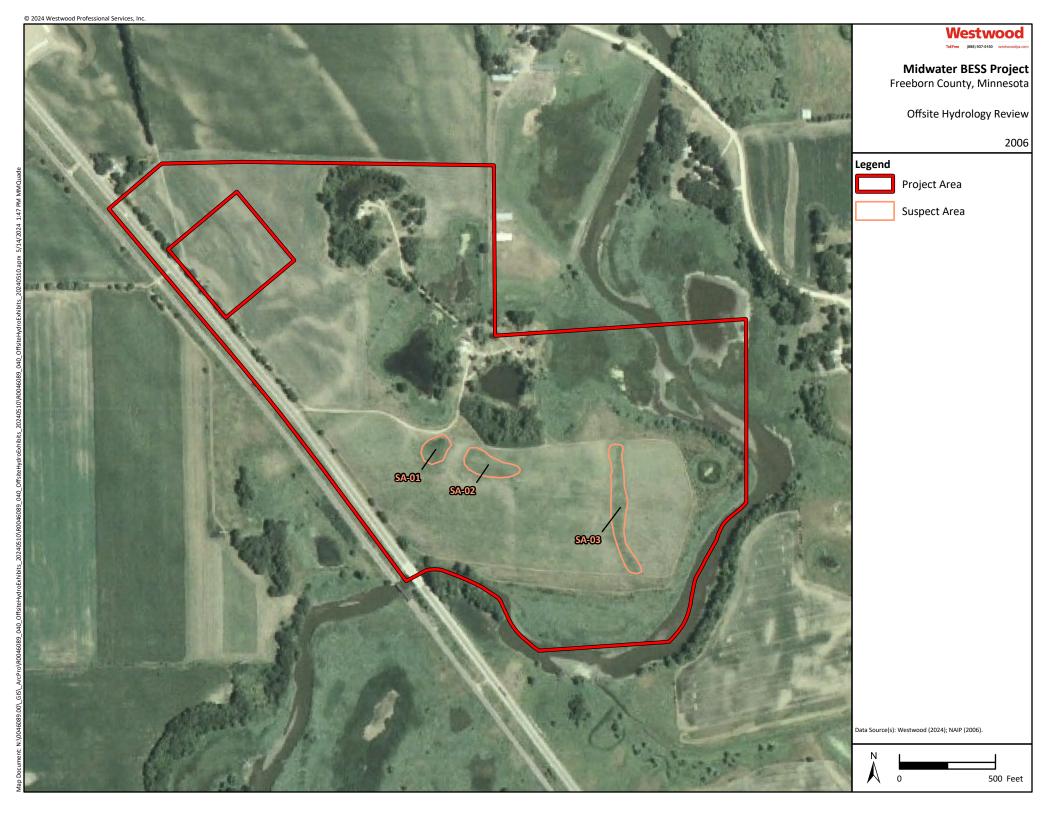
Answer "N/A" if field verification is not required and was not conducted.

² At minimum, the most updated NWI data available for the area must be reviewed for this step. Any and all other local or regional wetland maps that are publically available should be reviewed.

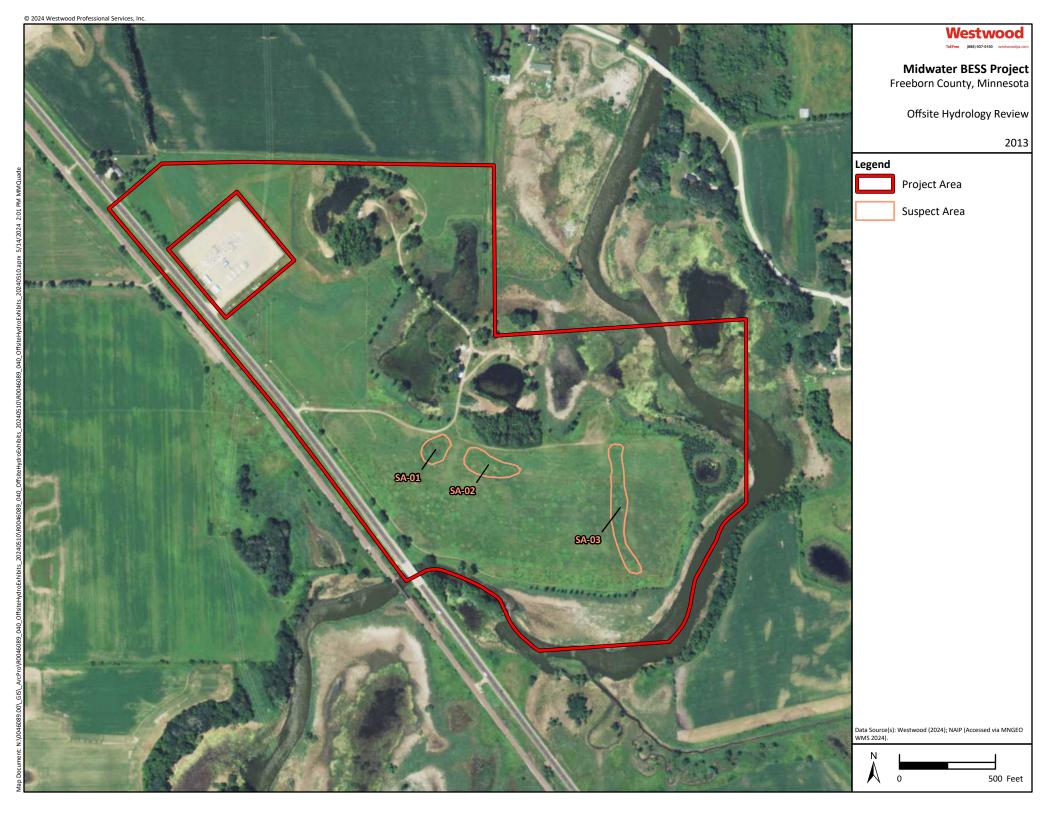
³ Area should be reviewed in the field for the presence/absence of wetland hydrology indicators per the applicable 87 Manual Regional Supplement, including the D2 indicator (geomorphic position).

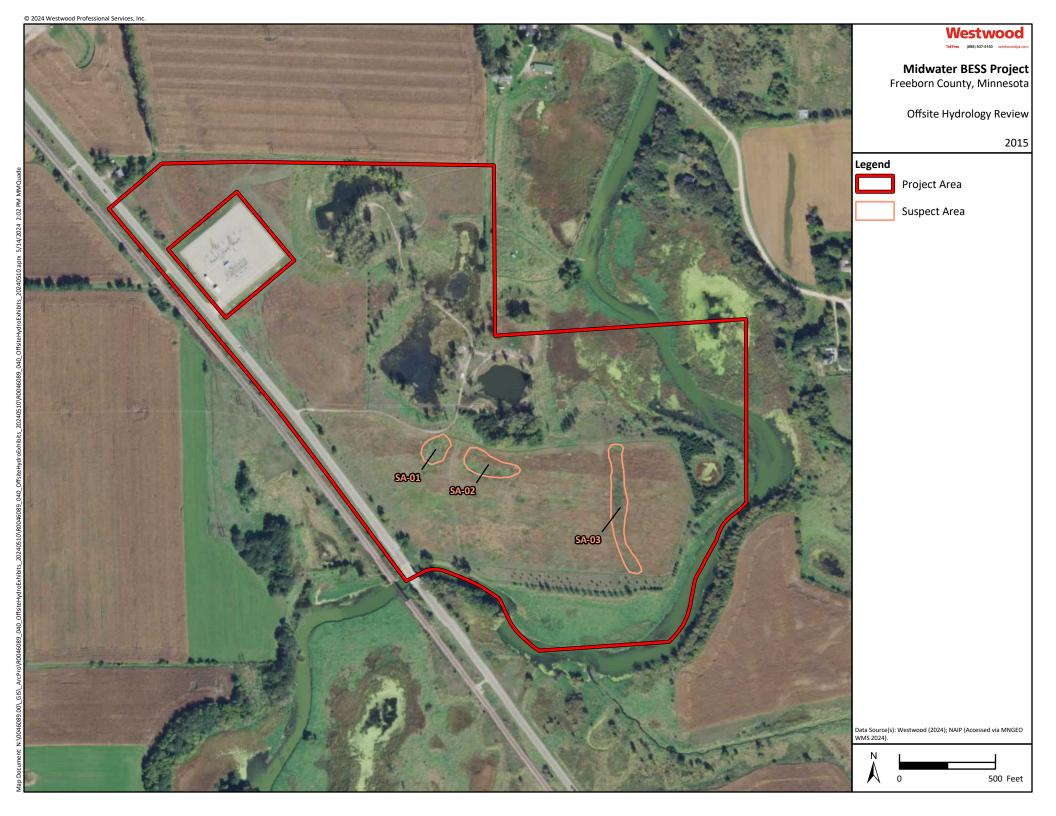


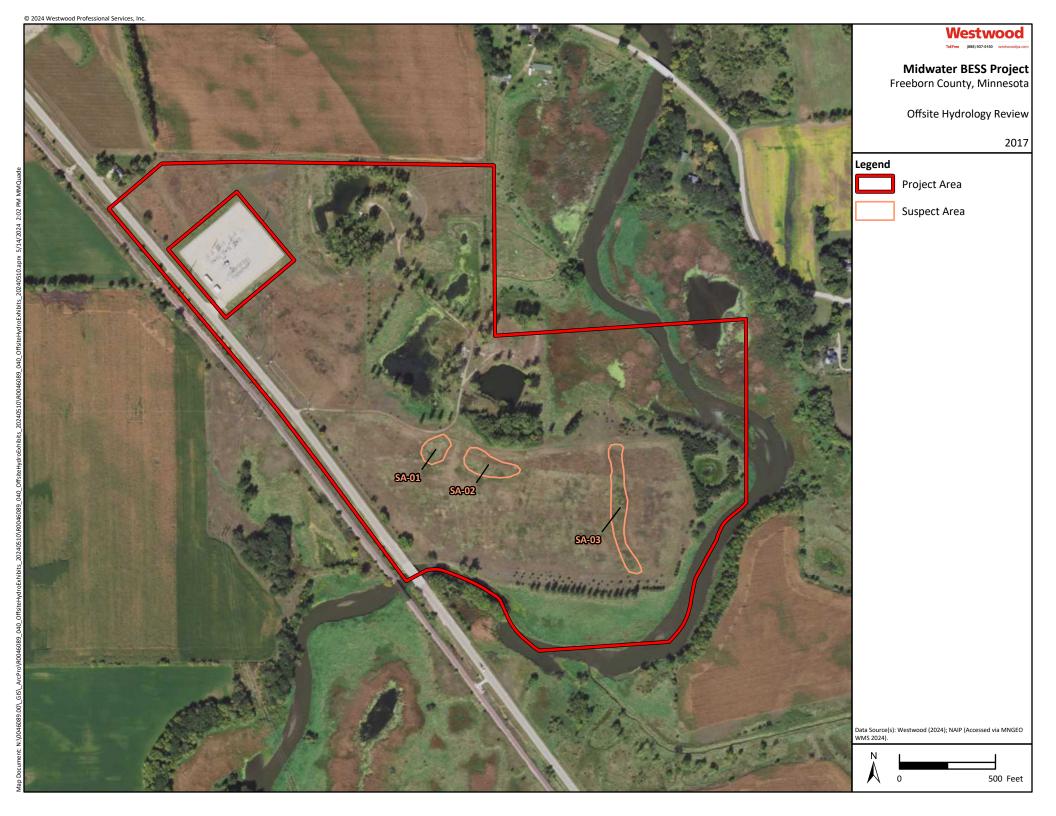


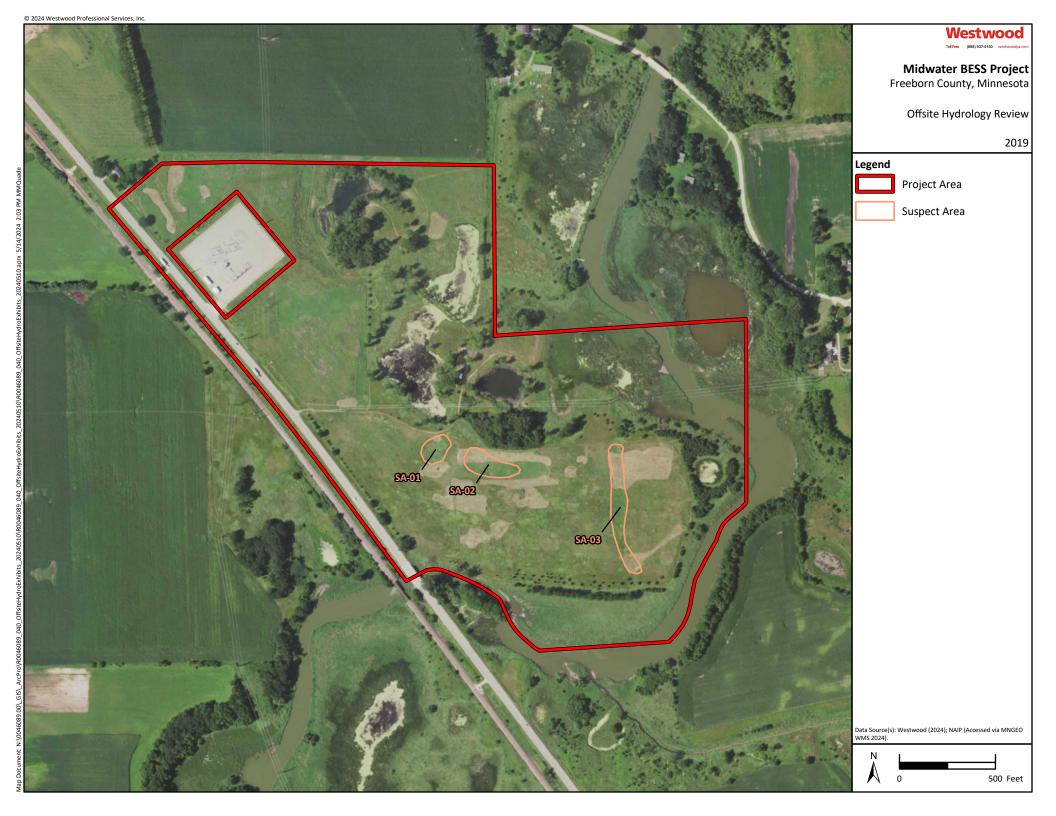


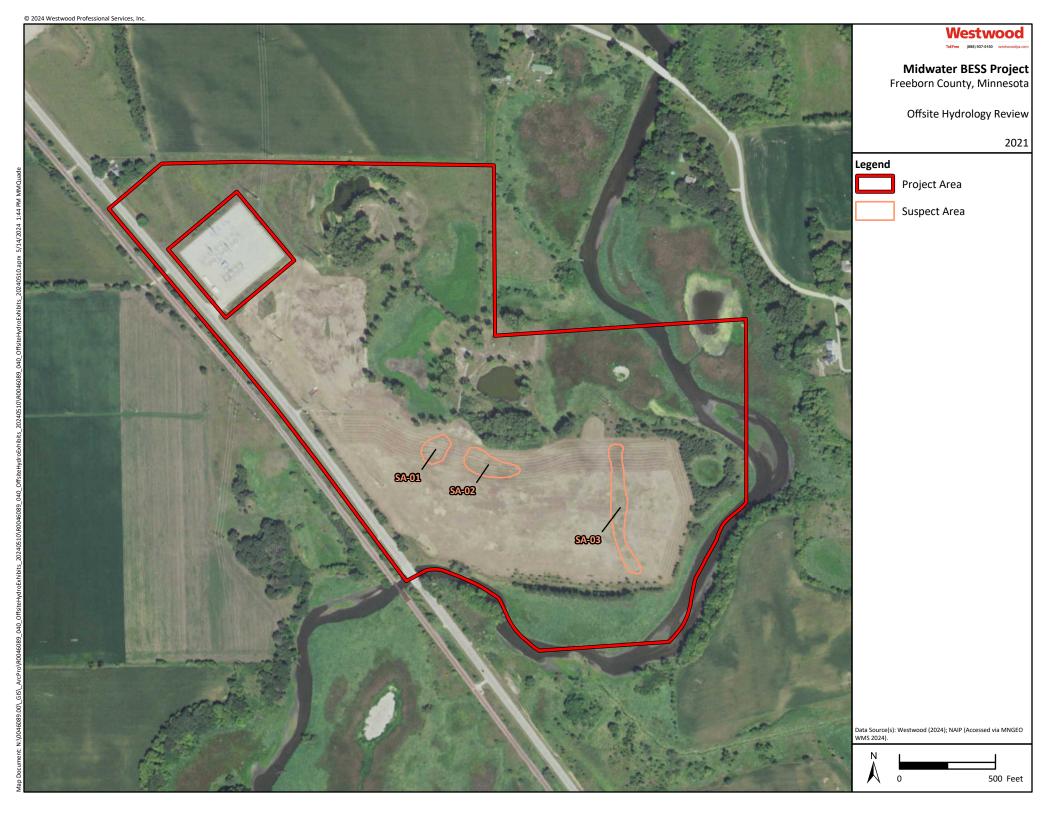


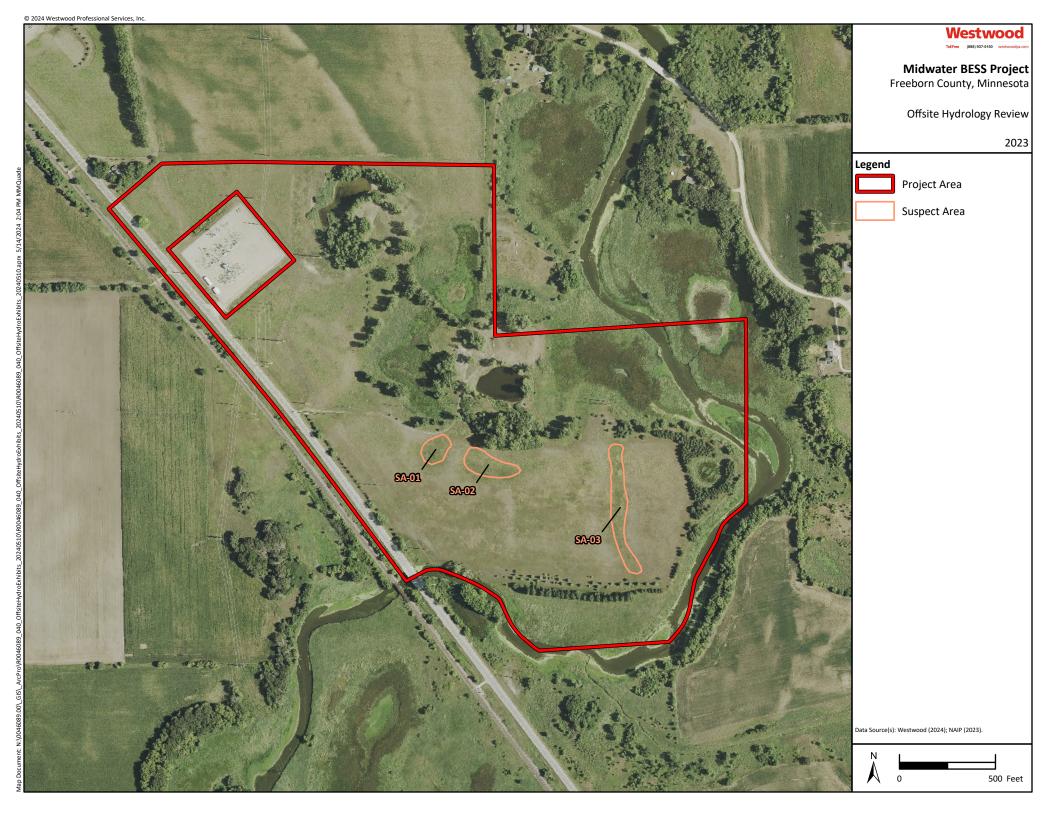


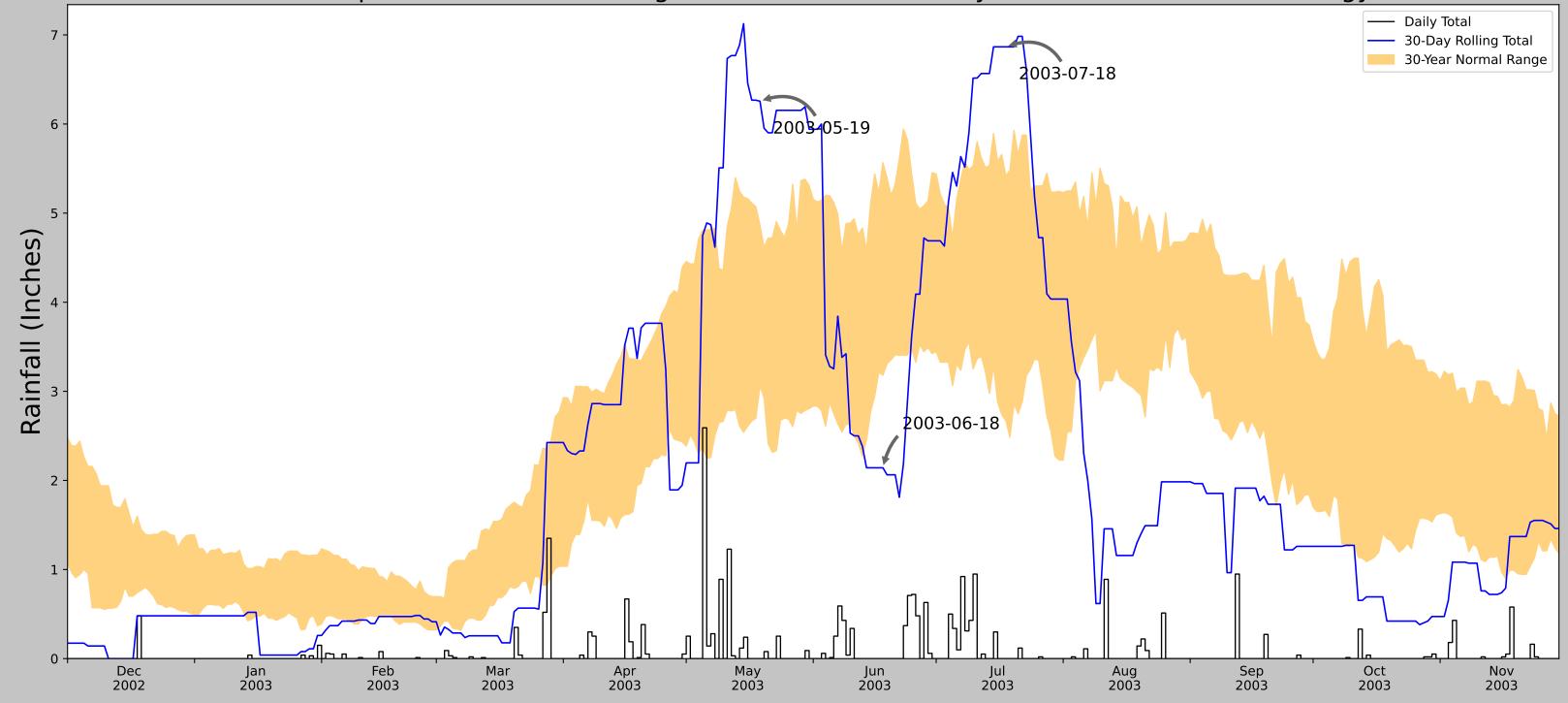












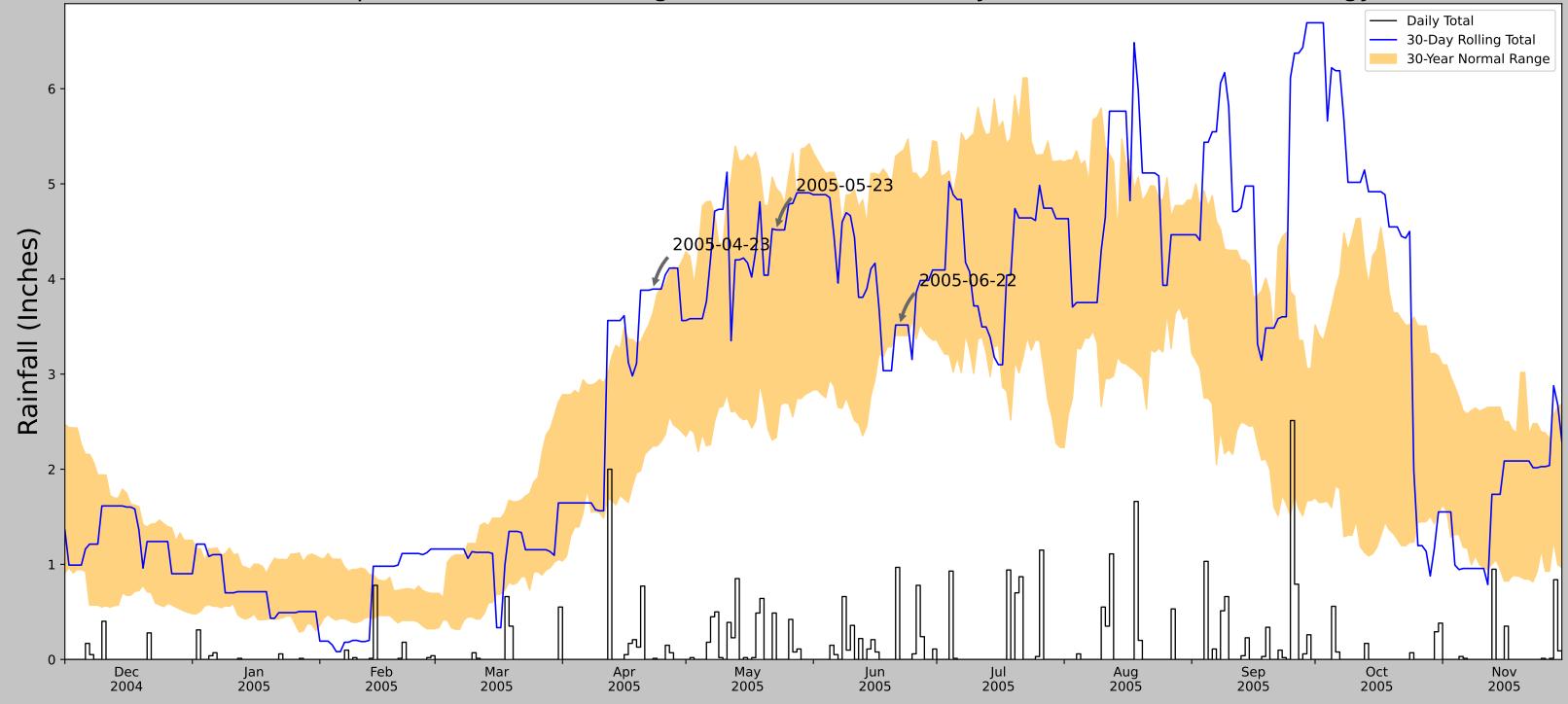
Coordinates	43.5556353, -93.2642970
Observation Date	2003-07-18
Elevation (ft)	1225.833
Drought Index (PDSI)	Normal
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2003-07-18	2.67126	5.419685	6.866142	Wet	3	3	9
2003-06-18	3.179921	5.565748	2.141732	Dry	1	2	2
2003-05-19	3.059843	4.861024	6.255906	Wet	3	1	3
Result							Normal Conditions - 14



Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALBERT LEA 3SE	43.6064, -93.3019	1229.987	3.981	4.154	1.808	11299	90
NORTHWOOD	43.4386, -93.2253	1189.961	12.213	40.026	5.985	54	0



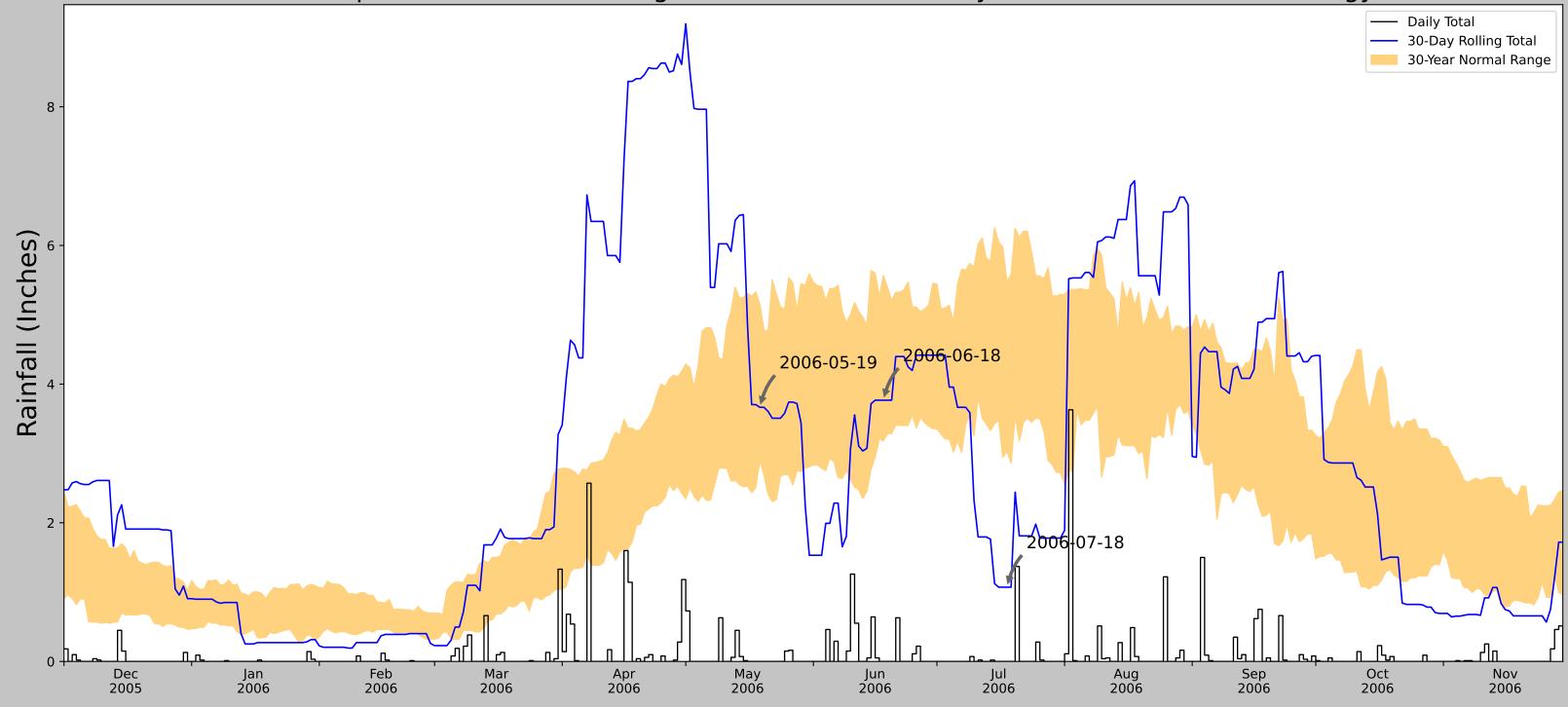
Coordinates	43.5556353, -93.2642970
Observation Date	2005-06-22
Elevation (ft)	1225.833
Drought Index (PDSI)	Severe wetness
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2005-06-22	3.404331	5.325197	3.515748	Normal	2	3	6
2005-05-23	2.333465	4.948425	4.515748	Normal	2	2	4
2005-04-23	2.243701	3.645276	3.893701	Wet	3	1	3
Result							Normal Conditions - 13



Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALBERT LEA 3SE	43.6064, -93.3019	1229.987	3.981	4.154	1.808	11299	90
NORTHWOOD	43.4386, -93.2253	1189.961	12.213	40.026	5.985	54	0



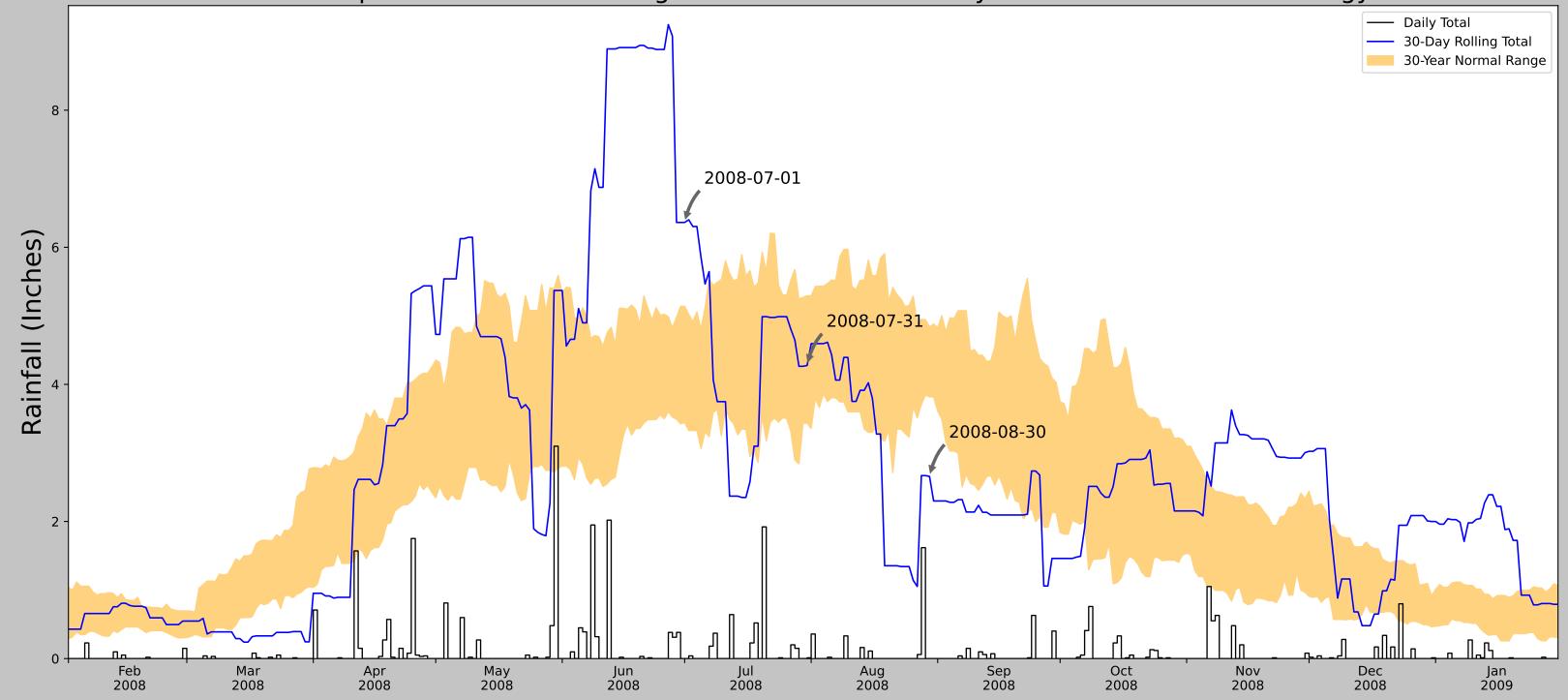
Coordinates	43.5556353, -93.2642970
Observation Date	2006-07-18
Elevation (ft)	1225.833
Drought Index (PDSI)	Mild drought
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2006-07-18	3.038583	5.481496	1.070866	Dry	1	3	3
2006-06-18	3.179921	5.565748	3.767717	Normal	2	2	4
2006-05-19	2.901575	5.151181	3.665354	Normal	2	1	2
Result							Drier than Normal - 9



Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALBERT LEA 3SE	43.6064, -93.3019	1229.987	3.981	4.154	1.808	11299	90
NORTHWOOD	43.4386, -93.2253	1189.961	12.213	40.026	5.985	54	0



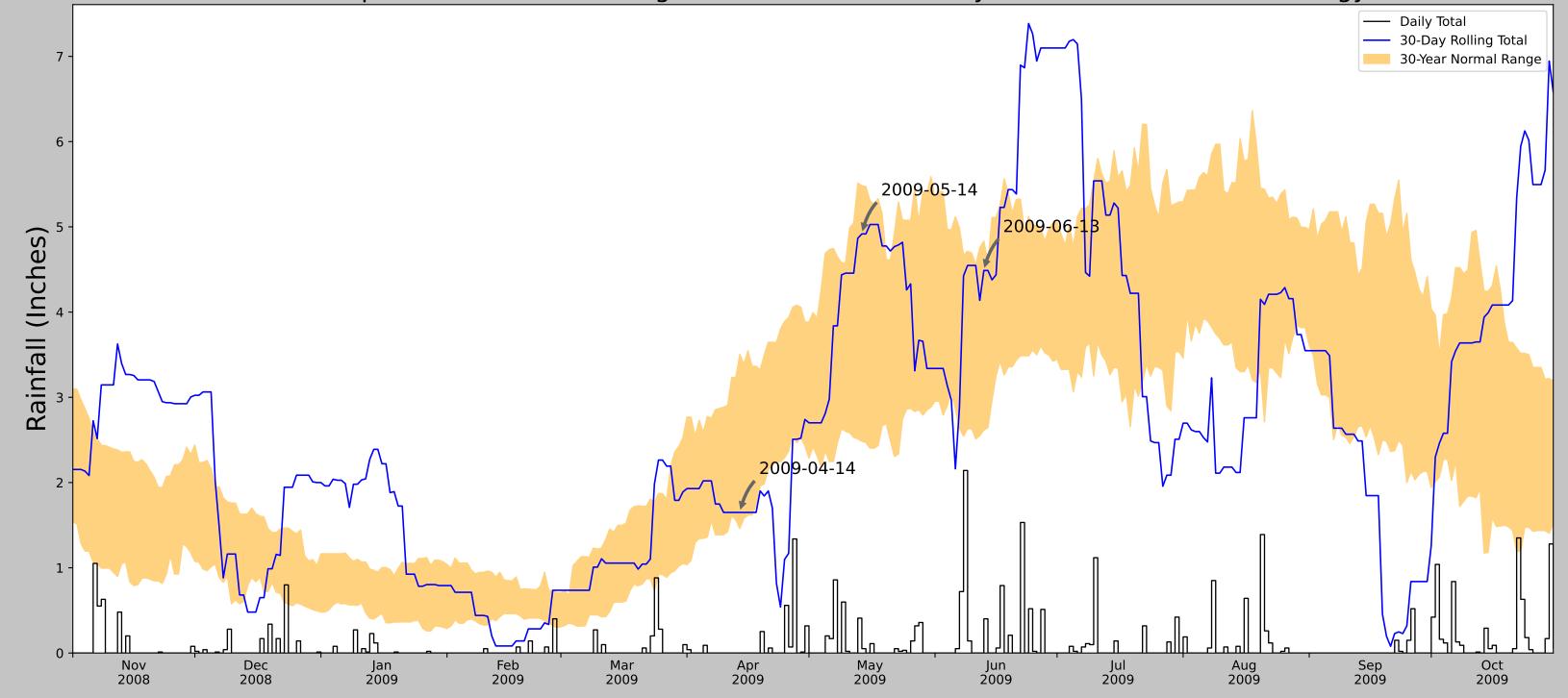
Coordinates	43.5556353, -93.2642970
Observation Date	2008-08-30
Elevation (ft)	1225.833
Drought Index (PDSI)	Incipient drought
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2008-08-30	3.817717	4.837008	2.65748	Dry	1	3	3
2008-07-31	3.433465	5.29252	4.275591	Normal	2	2	4
2008-07-01	3.445276	5.138583	6.362205	Wet	3	1	3
Result							Normal Conditions - 10



Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALBERT LEA 3SE	43.6064, -93.3019	1229.987	3.981	4.154	1.808	11297	90
NORTHWOOD	43.4386, -93.2253	1189.961	12.213	40.026	5.985	55	0



Coordinates	43.5556353, -93.2642970
Observation Date	2009-06-13
Elevation (ft)	1225.833
Drought Index (PDSI)	Mild drought
WebWIMP H₂O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2009-06-13	2.616142	4.833465	4.488189	Normal	2	3	6
2009-05-14	2.484252	5.481496	4.917323	Normal	2	2	4
2009-04-14	1.460236	3.505118	1.649606	Normal	2	1	2
Result							Normal Conditions - 12



Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALBERT LEA 3SE	43.6064, -93.3019	1229.987	3.981	4.154	1.808	11299	90
NORTHWOOD	43.4386, -93.2253	1189.961	12.213	40.026	5.985	54	0



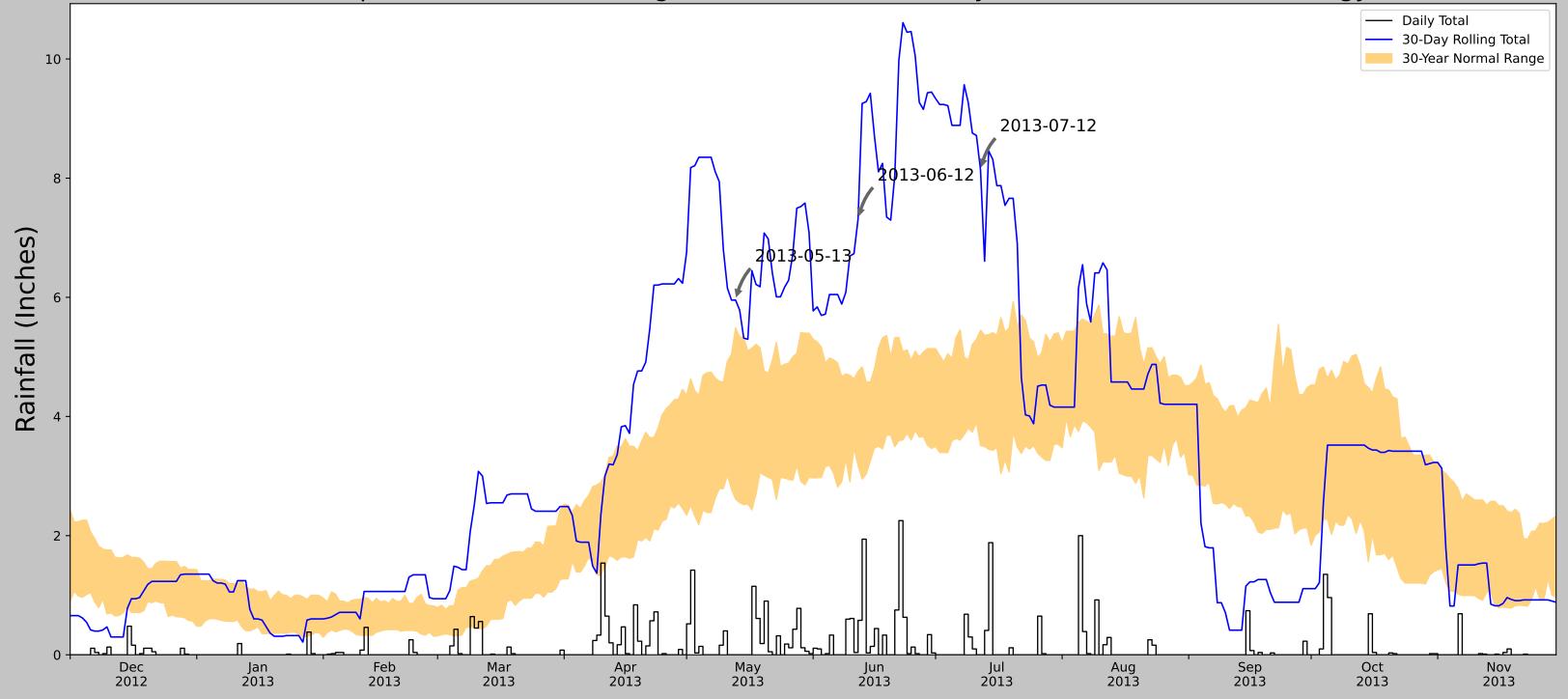
Coordinates	43.5556353, -93.2642970
Observation Date	2010-10-28
Elevation (ft)	1225.833
Drought Index (PDSI)	Extreme wetness
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2010-10-28	1.436221	3.350394	0.692913	Dry	1	3	3
2010-09-28	1.911811	4.267717	9.913386	Wet	3	2	6
2010-08-29	3.735039	4.943701	1.57874	Dry	1	1	1
Result							Normal Conditions - 10



Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALBERT LEA 3SE	43.6064, -93.3019	1229.987	3.981	4.154	1.808	11296	90
NORTHWOOD	43.4386, -93.2253	1189.961	12.213	40.026	5.985	57	0



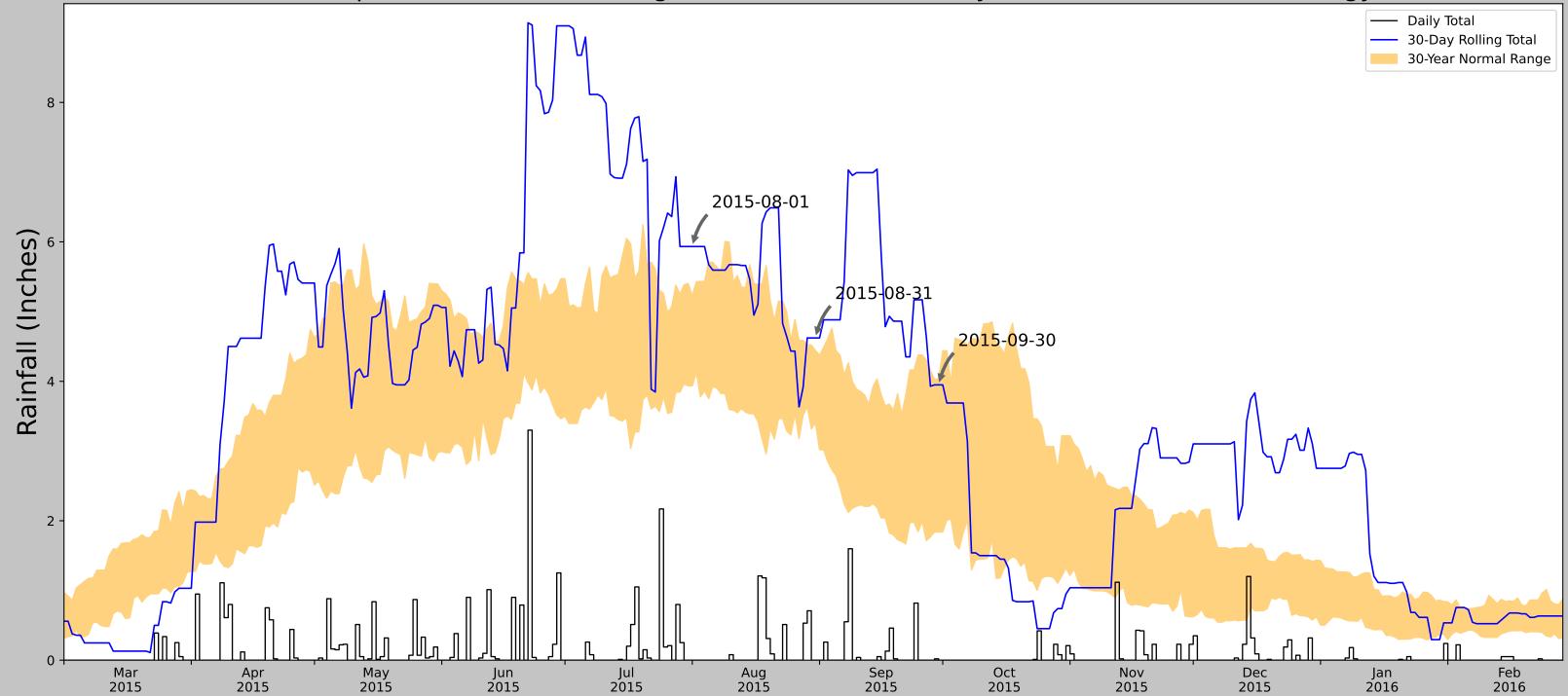
Coordinates	43.5556353, -93.2642970
Observation Date	2013-07-12
Elevation (ft)	1225.833
Drought Index (PDSI)	Normal
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2013-07-12	3.509843	5.445669	8.137796	Wet	3	3	9
2013-06-12	3.179134	4.755118	7.311024	Wet	3	2	6
2013-05-13	2.612205	5.486221	5.952756	Wet	3	1	3
Result							Wetter than Normal - 18



Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALBERT LEA 3SE	43.6064, -93.3019	1229.987	3.981	4.154	1.808	11296	90
NORTHWOOD	43.4386, -93.2253	1189.961	12.213	40.026	5.985	57	0



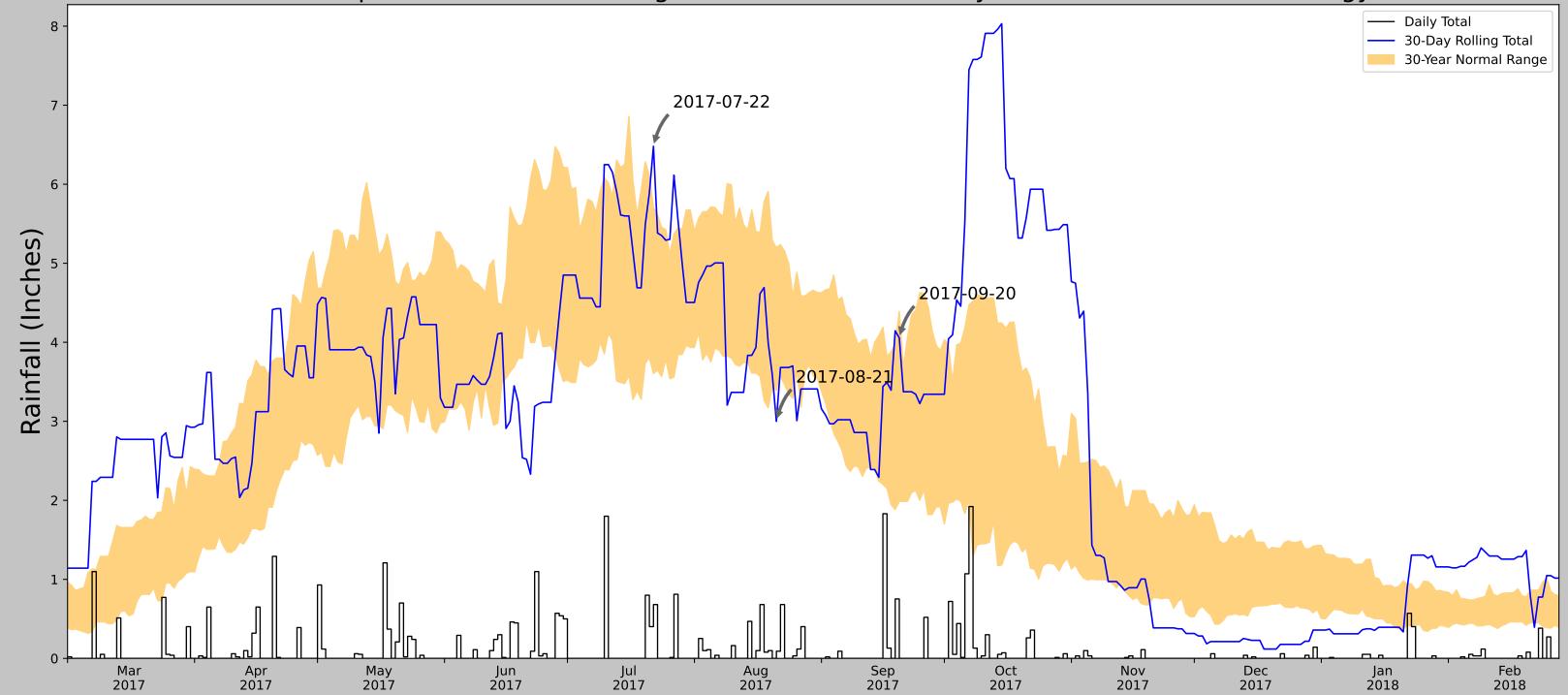
Coordinates	43.5556353, -93.2642970
Observation Date	2015-09-30
Elevation (ft)	1225.833
Drought Index (PDSI)	Moderate wetness
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2015-09-30	1.838583	4.032284	3.948819	Normal	2	3	6
2015-08-31	3.399606	4.44252	4.622047	Wet	3	2	6
2015-08-01	3.933858	5.230709	5.933071	Wet	3	1	3
Result							Wetter than Normal - 15



Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALBERT LEA 3SE	43.6064, -93.3019	1229.987	3.981	4.154	1.808	11310	90
NORTHWOOD	43.4386, -93.2253	1189.961	12.213	40.026	5.985	43	0



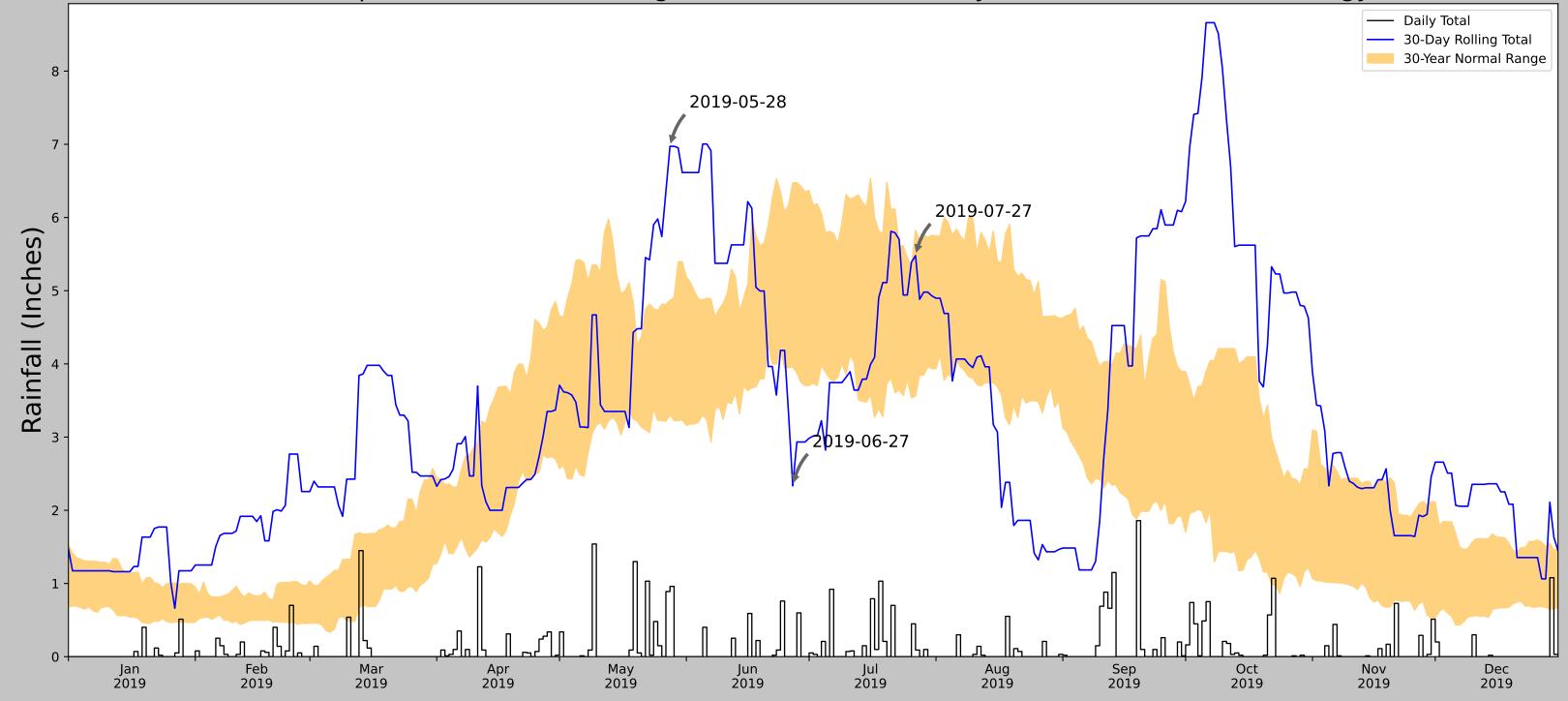
Coordinates	43.5556353, -93.2642970
Observation Date	2017-09-20
Elevation (ft)	1225.833
Drought Index (PDSI)	Severe wetness
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2017-09-20	1.985827	4.392914	4.055118	Normal	2	3	6
2017-08-21	3.392913	5.196851	3.0	Dry	1	2	2
2017-07-22	3.604331	5.705906	6.480315	Wet	3	1	3
Result							Normal Conditions - 11



Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALBERT LEA 3SE	43.6064, -93.3019	1229.987	3.981	4.154	1.808	11310	90
NORTHWOOD	43.4386, -93.2253	1189.961	12.213	40.026	5.985	43	0



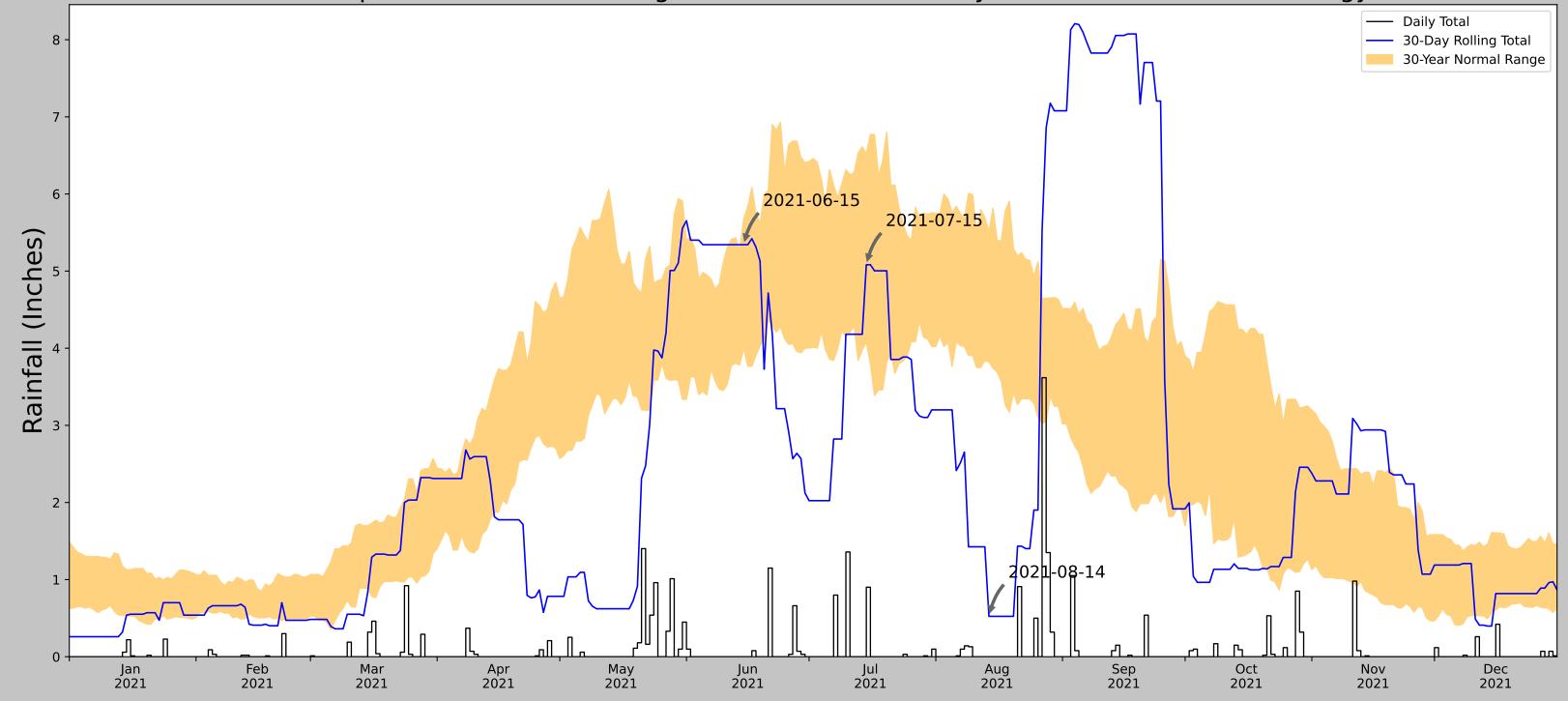
Coordinates	43.5556353, -93.2642970
Observation Date	2019-07-27
Elevation (ft)	1225.833
Drought Index (PDSI)	Extreme wetness
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2019-07-27	3.557874	5.826772	5.480315	Normal	2	3	6
2019-06-27	3.959449	6.474803	2.334646	Dry	1	2	2
2019-05-28	3.305512	4.866929	6.972441	Wet	3	1	3
Result							Normal Conditions - 11



Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALBERT LEA 3SE	43.6064, -93.3019	1229.987	3.981	4.154	1.808	11310	90
NORTHWOOD	43.4386, -93.2253	1189.961	12.213	40.026	5.985	43	0



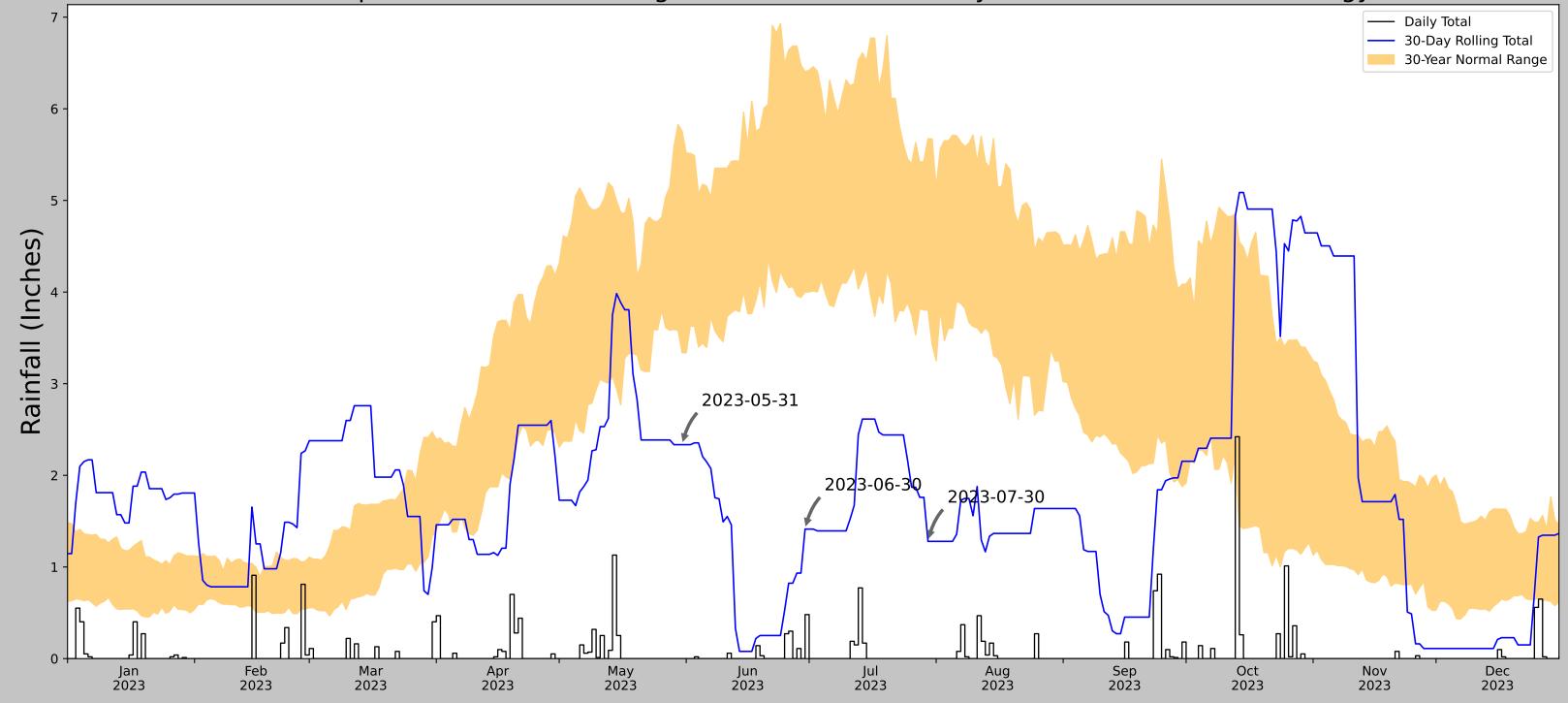
Coordinates	43.5556353, -93.2642970
Observation Date	2021-08-14
Elevation (ft)	1225.833
Drought Index (PDSI)	Mild drought
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-08-14	3.822835	5.512599	0.523622	Dry	1	3	3
2021-07-15	4.075197	6.52126	5.082677	Normal	2	2	4
2021-06-15	4.002362	5.675591	5.34252	Normal	2	1	2
Result							Drier than Normal - 9



Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALBERT LEA 3SE	43.6064, -93.3019	1229.987	3.981	4.154	1.808	11310	90
NORTHWOOD	43.4386, -93.2253	1189.961	12.213	40.026	5.985	43	0



Coordinates	43.5556353, -93.2642970
Observation Date	2023-07-30
Elevation (ft)	1225.833
Drought Index (PDSI)	Mild drought
WebWIMP H₂O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-07-30	3.800788	5.672835	1.279528	Dry	1	3	3
2023-06-30	4.001181	6.405906	1.413386	Dry	1	2	2
2023-05-31	3.337402	5.753543	2.334646	Dry	1	1	1
Result							Drier than Normal - 6



Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALBERT LEA 3SE	43.6064, -93.3019	1229.987	3.981	4.154	1.808	11310	90
NORTHWOOD	43.4386, -93.2253	1189.961	12.213	40.026	5.985	43	0