



Stantec Consulting Services Inc.
209 Commerce Parkway
PO Box 128
Cottage Grove WI 53527-8955

June 20, 2025

Project/File: 193711400

Donald P. Squire, Jr.
2046 Norgaren Road
Stoughton, WI 53589

**Reference: Summary of Squire Parcel Wetland Determination
Town of Dunkirk, Dane County, Wisconsin**

Dear Mr. Squire,

Stantec Consulting Services Inc. (Stantec) completed a wetland determination of an approximately 0.5-acre area (the "Study Area") on your behalf. The wetland determination was completed by Kate Remus of Stantec, an assured delineator qualified via the Wisconsin Department of Natural Resources (WDNR) Wetland Delineation Assurance Program, on June 9, 2025 (see Attachment A for delineator qualifications). The Study Area is part of a proposed 4.5-acre residential parcel that is located just southeast of the intersection of Pleasant Hill Road and Schroder Road, and northeast of the intersection of U.S. 51 and Pleasant Hill Road in the Town of Dunkirk, Dane County, Wisconsin, Section 2, Township 5 North, Range 11 East (Attachment B, Figure 1).

There were no wetlands identified within the Study Area. A summary of the methods used, and results of the field investigation are provided below.

Methods

The wetland determination was made using the three criteria (vegetation, soil, and hydrology) and technical approach defined in the *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1 (1987) and subsequent guidance documents, and applicable Regional Supplement to the *Corps of Engineers Wetland Delineation Manual*. According to procedures described in the 1987 Manual and the Northcentral and Northeast Regional Supplement (2011), areas that under normal circumstances reflect a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology (e.g., inundated or saturated soils) are considered wetlands.

The wetland determination involved the use of available resources to assist in the assessment such as U.S. Geological Survey (USGS) topographic maps, U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil survey, WDNR Wisconsin Wetland Inventory (WWI) mapping, and aerial photography (Attachment B, Figures 1-4).

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As recent weather patterns influence the visibility and presence of some wetland hydrology indicators, the antecedent precipitation in the three months leading up to the field investigation was reviewed. The current year's precipitation data were compared to the most recent long-term (30-year) precipitation averages and standard deviation to determine if precipitation was normal, wet, or dry for the area using a WETS analysis as developed by the NRCS.

Since agricultural lands associated with WWI mapped wetlands and indicator soils are mapped within the Study Area, a review of U.S. Department of Agriculture (USDA) Farm Service Agency (FSA) National Agriculture Imagery Program (NAIP) aerial imagery was required for the Study Area. The aerial imagery was reviewed for the appearance of wetness signatures. Wetness signatures are characteristics viewed in aerial imagery that may correlate with the presence of wetland hydrology. Wetness signatures may vary based on the type and seasonal date of the aerial imagery.

As part of the imagery review, the climatic condition of each aerial image was reviewed by comparing the antecedent precipitation in the three months leading up to the capture date of the image to long-term (30-year) precipitation averages using a WETS analysis for each imagery year. This comparison was made to determine if the climatic condition for a given year was normal, wet, or dry (Attachment D).

NRCS soil mapping, WWI mapping, and best available topographic mapping within the Study Area were reviewed in conjunction with an analysis of available aerial imagery for wetness signatures in these areas. Areas within agricultural fields are typically identified as wetland if they contain a combination of hydric soils, show wetness signatures in most normal years, and/or exhibit other hydrology indicators. During the field review, all areas that contained NRCS-mapped soil types that are hydric or may contain hydric inclusions, WWI mapped wetlands, and/or that exhibited wetland characteristics during the on-site investigation were sampled, regardless of the results of the aerial imagery review.

The sample points completed during the field investigation were identified and surveyed with a Global Positioning System (GPS) capable of sub-meter accuracy and mapped using Geographical Information System (GIS) software.

Results

A review of desktop resources found soils mapped within the Study Area by the NRCS Soil Survey of Dane County include Dresden silt loam (DsC2), Elburn silt loam (EgA), and Kegonsa silt loam (KeB) (Attachment B, Figure 2). The Elburn series can contain hydric inclusions in drainageways but is mapped as a predominantly non-hydric soil. The WDNR WWI mapping (Attachment B, Figure 3) identifies wetland and indicator soils within the Study Area that correspond with the area of mapped Elburn silt loam.

The antecedent precipitation was checked for the three-month period preceding the field investigation and was found to be drier than normal based on a WETS analysis (Attachment C). Between June 1-8, 2025, 0.98 inches of precipitation was received, which likely didn't shift the antecedent conditions to normal. The topography of the site ranges from topographic highs of approximately 886-896ft mean sea level (msl) in the eastern and western portions of the Study Area, with topographic lows of approximately 884ft msl near

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the center of the Study Area. The topographic low point corresponds with the area of mapped Elburn silt loam, as well as the mapped WWI wetland and indicator soils, and is associated with a broad relatively flat draw between topographic high points. A review of available aerial imagery from 2005-2022 (Attachment D) showed consistent wetness signatures in only two years, in a wet and a normal year. The wetness signatures aligned with the area of mapped Elburn silt loam, mapped WWI wetland and indicator soils, and the topographic low point of the Study Area.

Based on aerial imagery, the Study Area consists of an agricultural field and tree/fence line between fields. During the site visit, the agricultural field was found to have been planted to corn in 2024 based on remaining corn stubble and was planted to soybeans in 2025. Vegetation observed along the fence/tree line in the higher topography areas included common hackberry (*Celtis occidentalis*, FAC), black cherry (*Prunus serotina*, FACU), and box elder (*Acer negundo*, FAC) in the canopy, common buckthorn (*Rhamnus cathartica*, FAC) and white mulberry (*Morus alba*, FACU) in the shrub layer, with smooth brome (*Bromus inermis*, UPL), burdock (*Actium minus*, FACU), and Canada goldenrod (*Solidago canadensis*, FACU) common in the herb layer. Where the topography was lower, reed canary grass (*Phalaris arundinacea*, FACW), smooth brome, burdock, giant ragweed (*Ambrosia trifida*, FAC), annual bedstraw (*Galium aparine*, FACU), stinging nettle (*Urtica dioica*, FAC), as well as sandbar willow (*Salix interior*, FACW), buckthorn, and elderberry (*Sambucus nigra*, FACW) shrubs were common.

Three wetland determination sample points were completed within the Study Area to document non-wetland conditions (Attachment B, Figure 4). The data sheets completed for the sample points are provided in Attachment E. Representative photographs of the Study Area are included in Attachment F.

Sample point SP1 was recorded at the lowest topographic point within the active agricultural field in the mapped WWI wetland and wetland indicator soils. Sample point SP1 met the hydrophytic vegetation criteria based on the sparse, weedy species present, but did not meet wetland hydrology criteria or indicators of hydric soil and was determined to be non-wetland. Sample points SP2 and SP3 were both located within the unmaintained vegetated tree/fence line and within the mapped WWI wetland and wetland indicator soils. SP2 was placed within the lowest topographic point within the tree/fence line with SP3 located approximately 2-3 feet upslope from SP2. Neither SP2 nor SP3 met any of the three wetland criterion. While some of the dominant plants at SP2 and SP3 are considered hydrophytic (FACW, FAC), the overall vegetation assemblage was dominated by typical upland species (FACU, UPL). Additionally, based on the review of aerial imagery, the lowest topographic area within the Study Area, and extending north and south into the adjacent field, likely conveys overland flow during wet years or high precipitation events, but does not appear to hold water for a long enough duration for wetland conditions to develop. Overall, despite the presence of some hydrophytic vegetation, no primary indicators of wetland hydrology or hydric soil indicators were observed at any of the sample points and no wetlands were delineated within the Study Area.

Additionally, due to the couple years of wetness signatures observed in the aerial review that aligned with the area of mapped WWI wetland and wetland indicator soils, a visual review of this area was conducted to look for indicators of wetlands north and south of the Study Area. The non-wetland condition observed at

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SP1 appeared consistent throughout the agricultural fields. Photos 2 and 7-12 in the photo log (Attachment F) show the field conditions throughout the Study Area and to the south of the Study Area that align with the area of WWI mapped wetland and indicator soils. Based on observable site conditions present at the time of the field investigation, it did not appear that there were wetlands/wetland indicators present within or adjacent to the Study Area boundaries.

In summary, based on the results of the on-site investigation, it was determined that no wetlands are present within the Study Area, or within the adjacent field.

Please contact me if you have any questions regarding this wetland determination.

Regards,

Stantec Consulting Services Inc.



Kate Remus, MS, PWS
WDNR Assured Wetland Delineator
Senior Environmental Scientist
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Attachments: Attachment A – Delineator Qualifications
Attachment B – Figures 1-4
Attachment C – Antecedent Precipitation Analysis
Attachment D – Off-Site Aerial Imagery Review
Attachment E – Wetland Determination Data Forms
Attachment F – Study Area Photographs

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Notes
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources: Stantec, Esri, NRCS, USCB, USGS, WDNR, Donald Squire
3. Background: NAIP 2022

Legend

- Approximate Project Boundary
- NRCS Soil Survey Data
- Hydric Soil Rating
 - Hydric (H)*
 - Predominantly Hydric (PrH)*
 - Partially Hydric (PaH)*
 - Predominantly Non-Hydric (PNH)
 - Non-Hydric

WI DNR 24k Hydrography*

- ~ Perennial Stream
- - - Intermittent Stream
- Waterbody

0 50 100 Feet
(At original document size of 8.5x11)
1:1,200



Project Location
T5N, R11E, S2
T. of Dunkirk, Dane Co., WI

Prepared by DGJ on 2025-06-11
TR by RA on 2025-06-11
IR by KR on 2025-06-18

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Figure No.
2

Title
NRCS Soil Survey Data
Hydric Ratings

*No Features Within Data Frame

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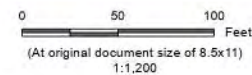
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 3. Background: NAIP 2022

Legend

- Approximate Project Boundary
- WWI Wetland Class Points*
- Wetland Too Small to Delineate
- WWI Wetland Class Areas
- Wetland
- Wetland Indicators

WI DNR 24k Hydrography*

- ~ Perennial Stream
- ~ Intermittent Stream
- Waterbody



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Figure No.
 3

Title
 Wisconsin Wetland Inventory

*No Features Within Data Frame

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2. Data Sources: Stantec, Esri, USCB, USGS, Donald Squire
3. Background: NAIP 2022

- Legend**
- Approximate Project Boundary
 - Sample Point
 - 2ft Elevation Contour
 - WI DNR 24k Hydrography***
 - Perennial Stream
 - Intermittent Stream
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Figure No.
4
Title
Field Collected Data

*No Features Within Data Frame