Lennie, Brian

From: Kolb, Simone E MVP <Simone.E.Kolb@usace.army.mil>
Sent: Tuesday, June 12, 2012 9:51 AM
To: Lennie, Brian
Cc: Hunt, Daniel E - DNR
Subject: RE: Dane County -Bear Tree Development Site wetland report (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Re: 2011-04990-SEK

Hi Brian,

This email is to confirm that the wetland boundary as shown on the attached map is accurate and is adequate to establish the limits of Corps of Engineers Clean Water Act jurisdiction. This wetland delineation shall remain valid for a period of five years from this date, unless new information warrants revision of the delineation beforehand.

It is recommended that the delineated wetland boundary be surveyed and identified on any development plans prepared for this property.

This review did not include a jurisdictional determination as to whether the waterbody/wetlands that were identified in this report would come under the Corps of Engineers regulatory authority pursuant to Section 404 of the Clean Water Act.

Please let me know if you have additional questions.

Sincerely,

Simone Kolb
Project Manager
Dane, Iowa, Lafayette, and Green counties

U.S. Army Corps of Engineers
20711 Watertown Rd., Suite F
Waukesha, WI 53186

(262) 717-9539
FAX: (262) 717-9549

-----Original Message-----
From: Lennie, Brian [mailto:Brian.Lennie@stantec.com]
Sent: Monday, June 11, 2012 9:29 AM
To: Kolb, Simone E MVP
Subject: Re: Dane County -Bear Tree Development Site wetland report (UNCLASSIFIED)

I am on site I think it is pretty dry no standing water in fields, have you seen the 2004 alice tompson delineation that is basically the same and was approved by the ACOE? Either way call me at 2626179114

----- Original Message -----
From: Kolb, Simone E MVP [mailto:Simone.E.Kolb@usace.army.mil]

Sent: Monday, June 11, 2012 08:10 AM
To: Lennie, Brian
Subject: RE: Dane County -Bear Tree Development Site wetland report (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Would you be able to coordinate with the owner? Given the rain we've just had, it may not be very conducive to do the site visit just now. Perhaps early next week?

-----Original Message-----
From: Kolb, Simone E MVP
Sent: Monday, May 21, 2012 1:12 PM
To: 'Lennie, Brian'
Subject: RE: Dane County -Bear Tree Development Site wetland report (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Monday, June 11, at 10 a.m. I should say.

-----Original Message-----
From: Lennie, Brian [mailto:Brian.Lennie@stantec.com]
Sent: Monday, May 21, 2012 12:56 PM
To: Kolb, Simone E MVP
Subject: RE: Dane County -Bear Tree Development Site wetland report (UNCLASSIFIED)

Hi Simone,
The project engineer for this job it on vacation today, so I will need to coordinate with him tomorrow to get owner permission for you. Do you have a date in mind?
brian

-----Original Message-----
From: Kolb, Simone E MVP [mailto:Simone.E.Kolb@usace.army.mil]
Sent: Thursday, May 17, 2012 4:25 PM
To: Lennie, Brian
Subject: RE: Dane County -Bear Tree Development Site wetland report (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

The national plant list has always shown FACU for cathartica, however, our district guidance has changed the indicator status for this and a select few other plants effective within the St. Paul District only. All the plants with different indicators than the national list are on the guidance link I sent. The new list is still not effective until June 1.

Understandable about the corn. Been there. I may make a visit because there's a consistent roundish wet spot that shows up south of the trees on several years of aerial photos. Looks like a lot of disturbance. I don't know if it's man created or what's going on. But would be good to know before I concur.

It's up to you if you would like to meet me out there or not. I do need landowner permission, however.

Let me know, thanks,

Simone

-----Original Message-----
From: Lennie, Brian [mailto:Brian.Lennie@stantec.com]
Sent: Thursday, May 17, 2012 3:23 PM

To: Kolb, Simone E MVP
Subject: RE: Dane County -Bear Tree Development Site wetland report (UNCLASSIFIED)

Ok, so do you want do a field check and concur or do you want me to fix the data sheets? Or both?

Also, on point #1 I have in my notes a question mark by drainage patterns (should not have been checked); on point #2 it is definitely upland where I took the pit, but it looks like the veg comes out 60% dominant wetland plants and the FACU for common buckthorn was from last fall prior to the new list being approved; on point #3 there is a ditch in the field south that I did not flag with reed canary in the bottom on the ag. ditch; and on point #4 I tried to take the sample in the blotchy area but I was not sure (it was all tall corn) so I put the dot near the west edge of the blotch because I was not sure I was in the middle of the blotchy patch.
Thanks,
Brian

Brian Lennie
Senior Scientist
Stantec
12075 Corporate Parkway Suite 200
Mequon WI 53092
Brian.Lennie@stantec.com
Cell:262-617-9114
stantec.com

-----Original Message-----
From: Kolb, Simone E MVP [mailto:Simone.E.Kolb@usace.army.mil]
Sent: Thursday, May 17, 2012 3:03 PM
To: Lennie, Brian
Subject: RE: Dane County -Bear Tree Development Site wetland report (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

In my experience, I don't see significant swings in the delineation line when I find issues on the data sheets, but it is difficult for us to concur without a site visit in such a case. I typically like to make a quick site visit, verify the line, and move on from there.

Ok, here are some of the issues:

- In summary of findings, there is no "yes" or "no" line. Just a line with an x. I don't know if they mean yes or no so that's something to correct on the template.
- In farmed areas, you should check yes for vegetation being significantly disturbed. We can use what's there as clues, but we cannot base the call on vegetation that has been disturbed. If there are hydric soils and/or hydrophytic vegetation, you check "problematic hydrophytic vegetation" on the vegetation sheet which results in a positive finding of hydrophytic vegetation. There are also protocols for soils that have been farmed. Chapter 5 of the supplement has a big section on agricultural lands, which details protocols for ag areas.

- Rhamnus cathartica should have an indicator of FAC for the St. Paul District. See: http://www.mvp.usace.army.mil/docs/regulatory/wetdelguide.pdf. This will also be the case in the new plant list which is coming online June 1.
- It is recommended that the Herb stratum have a 5' radius as opposed to 15'. And also the woody vine stratum is recommended to have a 30' radius, as opposed to 15'.
- During the dry season, I always recommend checking for dry season water table at 24 inches.
- For future reference (no biggie), Circaea quadrisulcata is lutetiana now. And Rhus radicans is Toxicodendron rydbergii.
- On point #1 you have two secondary hydrology indicators, yet you checked that hydrology wasn't present. Two secondary indicators result in a positive finding of wetland hydrology. Also, all vegetation found, regardless of dominance, must be used when calculating the prevalence index.
- On point #2, both species in the woody vine stratum would count as dominants. The stratum doesn't count only if it is 4 percent or less. As the stratum has 10% cover, you would have to determine dominants. With this change and the change in indicator for rhamnus cathartica, this point meets the dominance test and is a hydrophytic plot. Also, the soil looks kind of funky. It's very unusual to only have 4 inches of topsoil in this area so I wonder if this soil wasn't disturbed.
- On point # 3, good job doing a detailed color description and correctly selecting the indicator. For future reference (again, no biggie), you can list a second matrix color (in this case the 4/1) where you would list redox features and simply label it "RM" for reduced matrix or simply "M" for matrix if not reduced.
- I would have liked to see point #4 moved slightly north-northeast into the blotchy area of the field with drainage areas to check there. Also, lastly, I'm concerned about the area south of point 3 in the field. Do you know what's going on down there? It looks to have had water in the past. It is more than likely isolated, but I am hesitant to concur with a delineation that leaves it out. I may need to visit for that reason alone if I can't figure it out from here.

Let me know if you have any questions, thanks

Simone

-----Original Message-----
From: Lennie, Brian [mailto:Brian.Lennie@stantec.com]
Sent: Thursday, May 17, 2012 2:08 PM
To: Kolb, Simone E MVP
Subject: RE: Dane County -Bear Tree Development Site wetland report (UNCLASSIFIED)

Either one; the line is pretty straight forward or I can revise the data sheets too. It would be easier for me to revise the data sheets.

-----Original Message-----
From: Kolb, Simone E MVP [mailto:Simone.E.Kolb@usace.army.mil]
Sent: Thursday, May 17, 2012 2:06 PM
To: Lennie, Brian
Subject: RE: Dane County -Bear Tree Development Site wetland report (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

There are some issues with the data sheets. I can send you a list soon. We can either correct the data sheets or I can come out there to verify the line. Let me know what you would prefer.

Thanks,

Simone

-----Original Message-----
From: Lennie, Brian [mailto:Brian.Lennie@stantec.com]
Sent: Thursday, May 17, 2012 1:30 PM
To: Kolb, Simone E MVP
Subject: Dane County -Bear Tree Development Site wetland report

Hi Simone,

Just wondering on the review of the Bear Tree Development Site wetland report in Dane County. I have not seen a boundary concurrence letter yet, I sent it to you with a cover letter dated November 10, 2011.

Please let me know.

Thanks,

brian

Brian Lennie
Senior Scientist
Stantec

12075 Corporate Parkway Suite 200
Mequon WI 53092
Brian.Lennie@stantec.com <mailto:Brian.Lennie@stantec.com>

Cell:262-617-9114

stantec.com <http://www.stantec.com/>

Classification: UNCLASSIFIED
Caveats: NONE

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Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Aerial Map

Bear Tree Development Wetland Delineation

Dane County, WI

Source: MrSID Air Photo

Southwest ½ of Section 28 and Section 33, Township 09 North, Range 10 East

Not to scale. North ↑

Project Limits are Approximate

Legend

= approximate project limits / evaluated area

= wetlands (all wetlands within the project limits identified 8/09/2011)

Bonestroo

Stantec

Letter of Transmittal

Stantec
12075 Corporate Pkwy
Suite 200
Mequon, WI 53092
Tel 262-241-4466
Fax 262-241-4901
www.bonestroo.com
Bonestroo

To:	Simone Kolb ACOE-Waukesha Field Office 20711 Watertown Plank Rd., Suite F Waukesha, WI 53186
Date: 11/10/2011	We are sending you: ☐ Attached ☐ Shop Drawings ☐ Specifications ☐ Drawings ☐ Copy of Letter ☐ Change order ☐ Samples ☐ Permit Application
Project: Bear Tree Development	
File No.: 193801333	

Copies	Description	Code
1	Wetland Delineation Report	1,2

These are transmitted: (See Code)

1. For approval
2. For your use
3. As requested
4. For review and comment
5. Approved
6. Approved as noted
7. Revise and Resubmit
8. Rejected
9. Not reviewed
10.
11.
12.

Remarks:

Hi Simone,

Attached please find a wetland delineation report for the Bear Tree Development parcel in Dane County. Please provide a wetland boundary concurrence for the subject parcel. Please contact me at 262-643-9061 directly with any questions.

Thank You,

brian

Signed:
Brian S. Lennie

CC: Dwight Ziegler, 370 Campbell Hill Court, DeForest, WI 53532

File

BSL

Wetland Delineation Report

Bear Tree Development Wetland Delineation
Dane County, WI

Prepared: November 10, 2011

Bonestroo

Stantec

Table of Contents

Exhibits

Qualifications

A) Introduction

i) Who authorized the delineation?

Dwight Ziegler, Norski Development Corp. (370 Campbell Hill Court, DeForest, WI 53532) authorized the wetland delineation.

ii) Why is it being done?

The delineation was performed to identify the location of wetlands in relation to future residential and commercial development.

iii) Location of the site.

The subject site is an approximately 445-acre area located east of County Highway 51, between Windsor Road and Highway 19, in the Village of DeForest and Town of Windsor. The site location is in Section 28 and Section 33, Township 09 North, Range 10 East in Dane County, Wisconsin.

iv) Date of site visit.

The wetland delineation including soils and vegetation inventory and the flagging of the wetland boundary was performed on August 9, 2011.

v) Identification of the delineators.

The delineator was Brian Lennie, Environmental Scientist, with Bonestroo. The parcel was previously delineated by Thompson and Associates Wetland Services, LLC in November 2004.

B) Methods

i) Description of the method used.

The method used to delineate the wetland boundary was the Routine Onsite Method as set forth in the 1987 Corps of Engineers Wetland Delineation Manual and the 2009 Northcentral and Northeast Regional Supplement. There is no significant difference between the delineated boundary and the Basic Guide to Wisconsin Wetlands and Their Boundaries wetland delineation method boundary.

ii) Any modifications to the method used.

No modifications were made to the method used.

iii) Sources of existing information used.

The USDA Soil Survey of Dane County, 1995, 2000, 2005, and 2008, Washington County aerial photographs, WDNR Surface Water Viewer Wetland and Waterway Maps, NRCS Wetland Inventory Map, and the USGS Topographic Map were analyzed prior to the site inventory.

C) Results and Discussion

i) Description of the site.

(a) Topography

Forested uplands, wetlands, agricultural lands, and uplands open space dominate the subject area. Uplands open space, forested uplands, public right-of-way, industrial areas, residential lots, and wetlands lie adjacent to the subject area. In general, the

south half of the site drains southeast towards the Token Creek and the north half of the parcel drains west then south to Token Creek.

(b) Plant communities

Two wetland plant communities were identified in the subject area. Preliminary Wetland Location map, Exhibit A, shows the location of the plant community area (PCA).

Wetland Plant Community Area #1 can be described as second growth wet to wet-mesic lowland hardwoods with an excavated pond. Disturbances to the plant community area include pond excavation, sedimentation and water level changes from ditching.

Soils mapped and found

The USDA Soil Survey of Dane County identifies the presence of Batavia silt loam (BbB), Dodge silt loam (DnB, DnC2), Elburn silt loam (EfB), Gravel pit (GP), Griswold loam (GwB), Kidder loam (KdK2), Kidder soils (KrD2), McHenry silt loam (MdC2), Otter silt (Ot), Plano silt loam (PnA, PnB), Radford silt loam (RaA), Ringwood silt loam (RnB), Sable silty loam (SaA), St. Charles silt loam (ScA, ScB), Troxel silt loam (TrB), Virgil silt loam (VrB, VwA), and Whalan silt loam (WxC2) within the subject limits. The presence of Elburn silt loam, Radford silt loam, and Sable silty loam were confirmed in the field at the soil sample sites; the observed profile matches the mapped soil profile description. There were four soil-sample sites used to aid in the determination of the wetland boundaries. Elburn silt loam (EfB), Otter silt (Ot), (RaA) Radford silt loam, Sable silty loam (SaA), Troxel silt loam (TrB), and Virgil silt loam (VrB, VwA) are identified as hydric soil by the local soils conservationist.

(c) Hydrology information

Hydrologic indicators observed in the field for Wetland Plant Community Area #1 include water marks, water stained leaves, geomorphic position, and FAC-neutral test. Additional data from the National Weather Service is attached to document recent precipitation.

(e) Existing wetland mapping

The WDNR Wisconsin Wetlands Inventory Map identifies broad-leaved deciduous forested wetland with wet palustrine soil areas and an isolated wetland less than 0.25 acres within the project limits. The NRCS Wetland Inventory Map identifies the presence of wetlands within the project limits.

ii) Findings

(a) Existing wetland mapping

1. Descriptions

There was one wetland plant community area identified within the subject area. The Preliminary Wetland Location Map is located in Exhibit A.

There were no State-or-Federal listed rare, threatened or endangered species observed during the field inspection.

2. **Locations**

   Please refer to the Preliminary Wetland Location Map exhibits for the location of the wetland.

3. **Area**

   The wetland areas total approximately 5% of the subject area.

4. **Contrast with non-wetland**

   PCA #1 was delineated at the edge of a *Phalaris arundinacea—Fraxinus pennsylvanica—Ulmus americana* association and a *Geranium maculatum—Rhamnus cathartica—Prunus serotina.*

5. **How the boundaries were chosen**

   The wetland boundaries were chosen at the limits of the vegetative boundaries based on visual hydrologic indicators, topography and inference of the sampled soils.

(b) Types of other waters identified

i. **Description**

   One excavated pond was identified within the subject boundary.

ii. **Location**

   The pond is in Plant Community Area#1.

iii. **Area**

   The pond is completely within the wetland limits.

iv. **Contrast with non-wetland**

   Not applicable.

v. **How the boundary was chosen**

   Not applicable.

D) Conclusion

i) Summary of total area and types of wetlands and other regulated waters

The subject area contains approximately 5% wetland. Wetland Plant Community Area #1 can be described as second growth wet to wet-mesic lowland hardwoods with an excavated pond.

There were no State-or-Federal listed rare, threatened or endangered species observed during the field inspection.

ii) Statement regarding the need for permits

Alteration of the wetland and/or waterway will require permits from the Wisconsin Department of Natural Resources and/or the U.S. Army Corps of Engineers.

iii) Caution that final authority rests with the appropriate agencies

Final certification of the wetland boundary rests with the U.S. Army Corps of Engineers and/or the Wisconsin Department of Natural Resources.

E) Literature Cited

Britton, N.L., and H.A. Brown. 1970. *An Illustrated Flora of the Northern United States and Canada.* (2nd Edition Reprint) Volumes 1, 2 & 3. Dover Publications, Inc. New York. Vol. 1, 680 pp. Vol 2, 735 pp. Vol. 3, 637 pp.

Courtenay, B. and J.H. Zimmerman. 1972. *Wildflowers and Weeds.* Van Nostand Reinhold Co., New York. 144 pp.

Curtis, J.T. 1971. *The Vegetation of Wisconsin.* University of Wisconsin Press, Madison. 657 pp.

Eggers, S.D. and D.M. Reed, 1988. *Wetland Plants and Plant Communities of Minnesota and Wisconsin.* U.S. Army Corps of Engineers, St. Paul District, St. Paul, Minnesota. 201 pp.

Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual.* U.S. Army Engineer Waterways Experiment Station. Tech. Rept. Y-87-1. Vicksburg, Mississippi. 100 pp. + appendices.

Fassett, N.C. 1951. *Grasses of Wisconsin.* University of Wisconsin Press, Madison. 173 pp. Fassett, N.C. 1975.

Fassett, N.C. 1957. *A Manual of Aquatic Plants.* University of Wisocnsin Press, Madison. 405 pp.

Federal Interagency Committee for Wetland Delineation. 1989. *Federal Manual For Identifying Jurisdictional Wetlands.* U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Natural Resources Conservation Service. Washington, D.C. 107 pp. + appendices.

Munsell Color. 1992. *Munsell Soil Color Charts* (revised edition). Macbeth Division of Kollmorgen Instruments Corp. Newburgh, New York.

Peterson, R.T. and M. McKenney. 1968. *A Field Guide to Wildflowers of Northeastern and Northcentral North America.* Houghton Mifflin Co., Boston. 420 pp.

Reed, P.B., Jr. 1988. *National List of Plant Species That Occur in Wetlands: North Central (Region 3).* U.S. Fish and Wildlife Service. Biol. Rept. 88 (26.3). 99 pp.

Swink, F. and G. Wilhelm. 1994. *Plants of the Chicago Region. 4th Edition.* Indiana Academy of Science, Indianapolis, Indiana. 921 pp.

Exhibit A.

Preliminary Wetland Location Map

Aerial Map

Bear Tree Development Wetland Delineation

Dane County, WI

Source: MrSID Air Photo

Southwest ½ of Section 28 and Section 33, Township 09 North, Range 10 East

Not to scale. North ↑

Project Limits are Approximate

Legend

= approximate project limits / evaluated area

= wetlands (all wetlands within the project limits identified 8/09/2011)

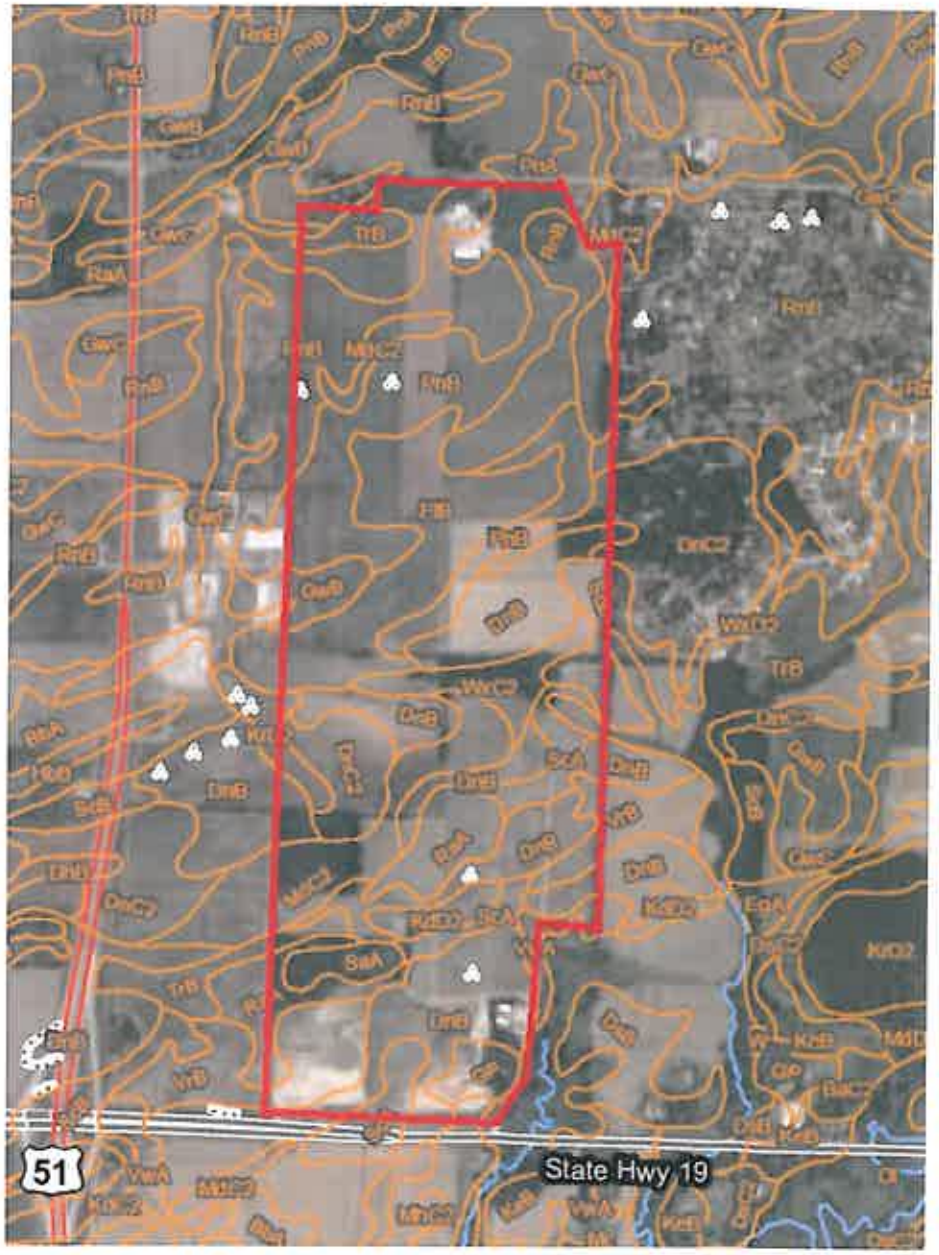
Bonestroo

Stantec

Exhibit B.

USDA Soils Map

USDA Soils Map
Bear Tree Development Wetland Delineation
Dane County, WI

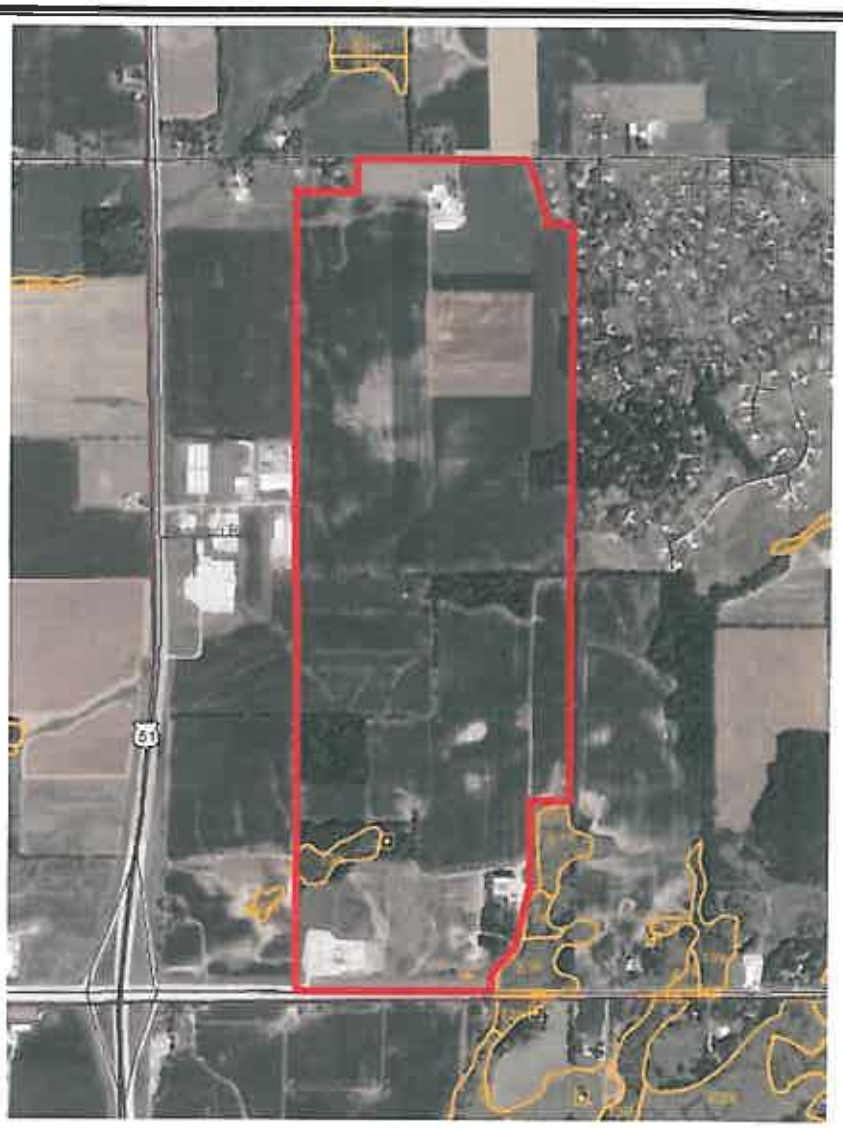


Source: USDA Soil Survey
Southwest ½ of Section 28 and Section 33, Township 09 North, Range 10 East
Not to scale. North ↑
Project Limits are Approximate

Exhibit C.

WDNR Wetland Map

WDNR Wisconsin Wetland Inventory Map
Bear Tree Development Wetland Delineation
Dane County, WI

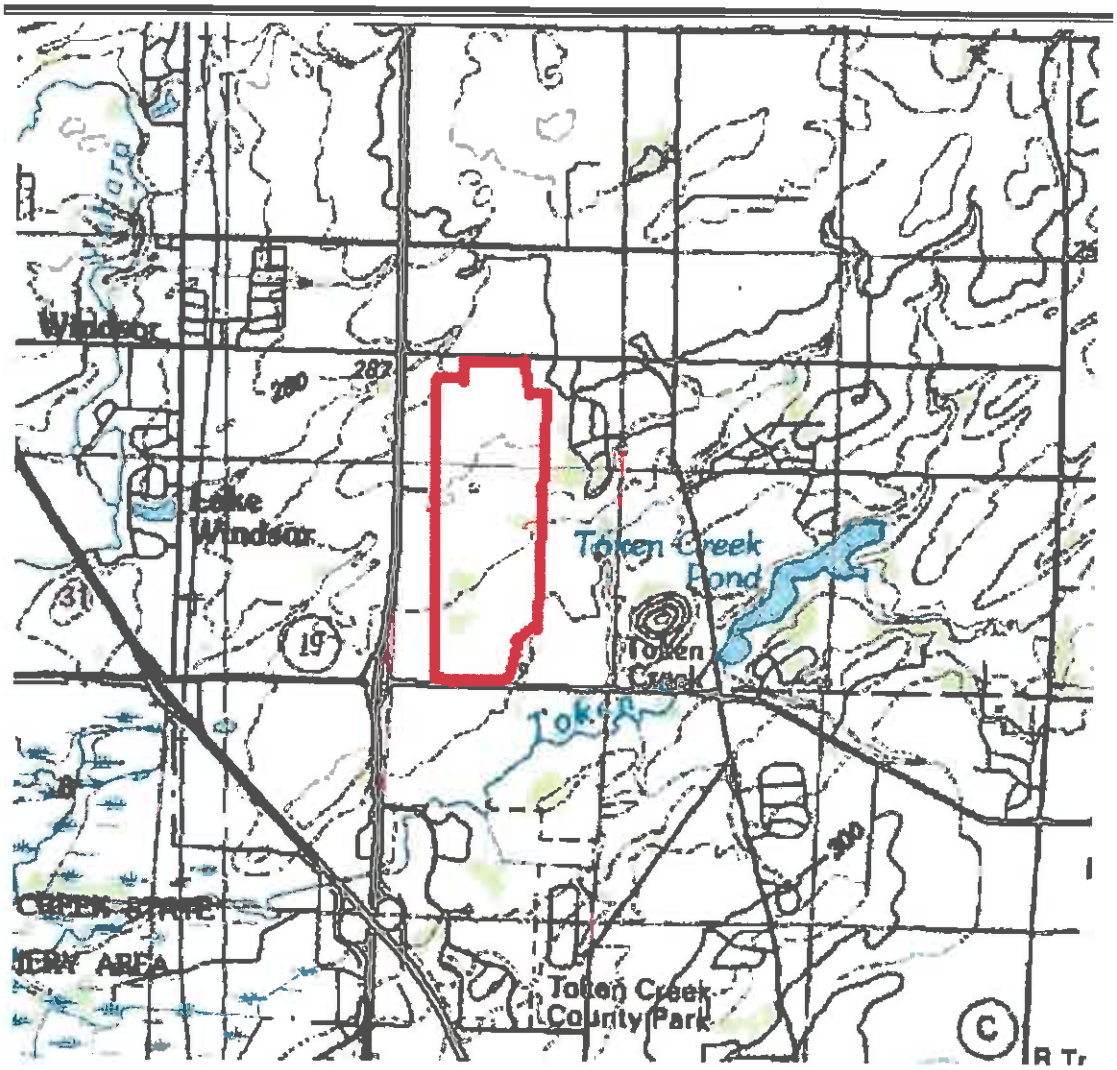


Source: WDNR Surface Water Viewer
South ½ of Section 28 and Section 33, Township 09 North, Range 10 East
Not to scale. North ↑
Project Limits are Approximate

Exhibit D.

USGS Topography Map

USGS Topographic Map
Bear Tree Development Wetland Delineation
Dane County, WI



Source: USGS 7.5 Topographic
Southwest ½ of Section 28 Section 33, Township 09 North, Range 10 East
Not to scale. North ↑
Project Limits are Approximate

Exhibit E.

Wetland Field Data Forms

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Bear Tree Development City/County: Dane Sampling Date: 8/9/11
Applicant/Owner: Dane Land Co. City/County: State: Wisconsin Sampling Point: #1 - Upland
Investigator(s): Brian S. Lennie Section, Township, Range: SW1/4 Sec 33, T09N, R10E
Landform (hillslope, terrace, etc.): Local relief (concave, convex): Concave
Slope (%): +/- 1% Lat.: 43° 19' 98" N Long.: 89° 31' 31" W Datum: USGS
Soil Map Unit Name: Radford silt loam (RaA) NWI Classification: none
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation No, soil No, or hydrology No significantly disturbed? Are "normal circumstances" present? Yes
Are vegetation No, soil No, or hydrology No naturally problematic?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? X
Hydric soil present? X
Wetland hydrology present? X

Is the sampled area within a wetland? No
If yes, optional wetland site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Upland using best professional judgment.

HYDROLOGY

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:
Surface water present? Yes ___ No x Depth (inches): ___
Water table present? Yes ___ No x Depth (inches): ___
Saturation present? (includes capillary fringe) Yes ___ No x Depth (inches): ___

Wetland hydrology present? No

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Drained hydric soil in Farm field.

SOIL

Sampling Point: #1 - Upland

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-12	10YR 4/3	100					Silt loam	
12-24	10YR 4/4	95	10YR 4/6	5	M		Silt loam	

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

Hydric Soil Indicators:

___ Histisol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Suface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

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

Hydric soil present? No

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: #1 - Upland

Tree Stratum	Plot Size (30' radius)	Absolute % Cover	Dominant Species	Indicator Staus
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0	= Total Cover	

Sapling/Shurb Stratum	Plot Size (15' radius)	Absolute % Cover	Dominant Species	Indicator Staus
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0	= Total Cover	

Herb Stratum	Plot Size (15' radius)	Absolute % Cover	Dominant Species	Indicator Staus
1	*Glycine max*	50	X	UPL
2	*Cyperus esculentus*	10		FACW
3	*Taraxacum officinale*	10		FACU
4	*Chenopodium album*	10		FAC
5	*Abutilon theophrasti*	10		FACU
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		90	= Total Cover	

Woody Vine Stratum	Plot Size (15' radius)	Absolute % Cover	Dominant Species	Indicator Staus
1				
2				
3				
4				
5				
		0	= Total Cover	

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	18	45
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species		x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	50	x 5 =	250
Column totals	50	(A)	250 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ___ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? No

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Bear Tree Development City/County: Dane Sampling Date: 8/9/11
Applicant/Owner: Dane Land Co. City/County: State: Wisconsin Sampling Point: #2 - Upland
Investigator(s): Brian S. Lennie Section, Township, Range: SW1/4 Sec 33, T09N, R10E
Landform (hillslope, terrace, etc.): Local relief (concave, convex): Convex
Slope (%): +/- 1% Lat.: 43° 19' 98" N Long.: 89° 31' 31" W Datum: USGS
Soil Map Unit Name: Radford silt loam (RaA) NWI Classification: none
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation No, soil No, or hydrology No significantly disturbed? Are "normal circumstances"
Are vegetation No, soil No, or hydrology No naturally problematic? present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? ____
Hydric soil present? ____
Wetland hydrology present? ____

Is the sampled area within a wetland? No
If yes, optional wetland site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

Wetland using best professional judgment.

HYDROLOGY

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ____	No	x	Depth (inches):	____
Water table present?	Yes ____	No	x	Depth (inches):	____
Saturation present? (includes capillary fringe)	Yes ____	No	x	Depth (inches):	____

Wetland hydrology present? No

Descrive recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOIL

Sampling Point: #2 - Upland

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-4	10YR 3/2	100					Silty loam	
4-15	10YR 5/3	100					Silty loam	
15-20	10YR 5/3	60					Silty clay	
	10YR 6/3	40						

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

Hydric Soil Indicators:

___ Histisol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Suface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR R, MLRA 149B)**
___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
___ Loamy Mucky Mineral (F1) **(LRR K, L)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
___ Coast Prairie Redox (A16) **(LRR K, L, R)**
___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
___ Dark Surface (S7) **(LRR K, L**
___ Polyvalue Below Surface (S8) **(LRR K, L)**
___ Thin Dark Surface (S9) **(LRR K, L)**
___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

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

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

Hydric soil present? No

Remarks:

Drained

VEGETATION - Use scientific names of plants

Sampling Point: #2 - Upland

Tree Stratum (Plot Size (30' radius))	Absolute % Cover	Dominant Species	Indicator Staus
1 *Prunus serotina*	40	X	FACU
2 *Acer negundo*	40	X	FACW
3 *Celtis occidentalis*	20	X	FAC
4			
5			
6			
7			
8			
9			
10			
	100 = Total Cover		

Sapling/Shrub Stratum (Plot Size (15' radius))	Absolute % Cover	Dominant Species	Indicator Staus
1 *Rhamnus cathartica*	30	X	FACU
2 *Rubus occidentalis*	30	X	UPL
3 *Ribes cynosbati*	30	X	UPL
4 *Ribes americanum*	10		FACW
5 *Fraxinus americana*	10		FACU
6			
7			
8			
9			
10			
	110 = Total Cover		

Herb Stratum (Plot Size (15' radius))	Absolute % Cover	Dominant Species	Indicator Staus
1 *Geranium maculatum*	15	X	FACU
2 *Circaea quadrisulcata*	15	X	FACU
3 *Arisaema triphyllum*	15	X	FACW
4 *Geum canadense*	15	X	FAC
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
	60 = Total Cover		

Woody Vine Stratum (Plot Size (15' radius))	Absolute % Cover	Dominant Species	Indicator Staus
1 *Parthenocissus quinquefolia*	5		FAC
2 *Rhus radicans*	5		FAC
3			
4			
5			
	10 = Total Cover		

	20%	50%
Tree Stratum	20	50
Sapling/Shrub Stratum	22	55
Herb Stratum	12	30
Woody Vine Stratum	2	5

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across all Strata: 10 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species		x 1 =	0
FACW species	65	x 2 =	130
FAC species	35	x 3 =	105
FACU species	110	x 4 =	440
UPL species	60	x 5 =	300
Column totals	270 (A)		975 (B)

Prevalence Index = B/A = 3.61

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- ___ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? No

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Bear Tree Development City/County: Dane Sampling Date: 8/9/11
Applicant/Owner: Dane Land Co. City/County State: Wisconsin Sampling Point: #3 - PCA #1
Investigator(s): Brian S. Lennie Section, Township, Range: SW1/4 Sec 33, T09N, R10E
Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex): Concave
Slope (%): +/- 1% Lat.: 43° 19' 98" N Long.: 89° 31' 31" W Datum: USGS
Soil Map Unit Name: Sable silty clay loam (SaA) NWI Classification: PF01A
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation No, soil No, or hydrology No significantly disturbed? Are "normal
Are vegetation No, soil No, or hydrology No naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? Yes
Hydric soil present? Yes
Wetland hydrology present? Yes

Is the sampled area within a wetland? Yes
If yes, optional wetland site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

Wetland using best professional judgment.

HYDROLOGY

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- x 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)
- x Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:
Surface water present? Yes ___ No x Depth (inches): ___
Water table present? Yes ___ No x Depth (inches): ___
Saturation present? Yes ___ No x Depth (inches): ___
(includes capillary fringe)

Wetland hydrology present? Yes

Descrive recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOIL

Sampling Point: #3 - PCA #1

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-10	10YR 2/2	100					Silty loam	
10-20	2.5Y 5/1	70	10YR 5/6	5	C	M	Silty clay	
	2.5Y 4/1	20	10YR 4/6	5	C	M		

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

Hydric Soil Indicators:

___ Histisol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
x Depleted Below Dark Suface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR R, MLRA 149B)**
___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
___ Loamy Mucky Mineral (F1) **(LRR K, L)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
___ Coast Prairie Redox (A16) **(LRR K, L, R)**
___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
___ Dark Surface (S7) **(LRR K, L**
___ Polyvalue Below Surface (S8) **(LRR K, L)**
___ Thin Dark Surface (S9) **(LRR K, L)**
___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

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

Hydric soil present? Yes

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: #3 - PCA #1

Tree Stratum	Plot Size (30' radius)	Absolute % Cover	Dominant Species	Indicator Staus
1	*Fraxinus pennsylvanica*	40	X	FACW
2	*Ulmus americana*	40	X	FACW
3				
4				
5				
6				
7				
8				
9				
10				
		80	= Total Cover	

Sapling/Shurb Stratum	Plot Size (15' radius)	Absolute % Cover	Dominant Species	Indicator Staus
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0	= Total Cover	

Herb Stratum	Plot Size (15' radius)	Absolute % Cover	Dominant Species	Indicator Staus
1	*Phalaris arundinacea*	100	X	FACW
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		100	= Total Cover	

Woody Vine Stratum	Plot Size (15' radius)	Absolute % Cover	Dominant Species	Indicator Staus
1	*Vitis riparia*	10	X	FACW
2	*Echinocystis lobata*	10	X	FACW
3				
4				
5				
		20	= Total Cover	

	20%	50%
Tree Stratum	16	40
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	4	10

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species		x 1 =	0
FACW species	200	x 2 =	400
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column totals	200 (A)		400 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Yes

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Bear Tree Development City/County: Dane Sampling Date: 8/9/11
Applicant/Owner: Dane Land Co. City/County State: Wisconsin Sampling Point: #4 - Upland
Investigator(s): Brian S. Lennie Section, Township, Range: SW1/4 Sec 33, T09N, R10E
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex): F
Slope (%): +/- 2 Lat.: 43° 19' 98" N Long.: 89° 31' 31" W Datum: USGS
Soil Map Unit Name: Elburn silt loam (EfB) NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation No, soil No, or hydrology No significantly disturbed? Are "normal
Are vegetation No, soil No, or hydrology No naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? No
Hydric soil present? No
Wetland hydrology present? No

Is the sampled area within a wetland? No
If yes, optional wetland site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

Upland using best professional judgment.

HYDROLOGY

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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Microtopographic Relief (D4)

Field Observations:

Surface water present?	Yes ___	No x	Depth (inches): ___	
Water table present?	Yes ___	No x	Depth (inches): ___	
Saturation present? (includes capillary fringe)	Yes ___	No x	Depth (inches): ___	

Wetland hydrology present? No

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOIL

Sampling Point: #4 - Upland

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-9	10YR 3/2	100					Silt loam	
9-16	10YR 4/2	40					Silty clay loam	
	10YR 4/3	60					Silty clay loam	
16-18	10YR 4/3	60						
	10YR 4/4	40						

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

Hydric Soil Indicators:

___ Histisol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Suface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR R, MLRA 149B)**
___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
___ Thin Dark Surface (S9) **(LRR R, MLRA 149B**
___ Loamy Mucky Mineral (F1) **(LRR K, L)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**
___ Coast Prairie Redox (A16) **(LRR K, L, R)**
___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
___ Dark Surface (S7) **(LRR K, L**
___ Polyvalue Below Surface (S8) **(LRR K, L)**
___ Thin Dark Surface (S9) **(LRR K, L)**
___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

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

Hydric soil present? No

Remarks:

Cropped, drained hydric Soil

VEGETATION - Use scientific names of plants

Sampling Point: #4 - Upland

Tree Stratum	Plot Size (30' radius)	Absolute % Cover	Dominant Species	Indicator Staus
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0	= Total Cover	

Sapling/Shurb Stratum	Plot Size (15' radius)	Absolute % Cover	Dominant Species	Indicator Staus
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0	= Total Cover	

Herb Stratum	Plot Size (15' radius)	Absolute % Cover	Dominant Species	Indicator Staus
1	*Zea mays*	100	X	UPL
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		100	= Total Cover	

Woody Vine Stratum	Plot Size (15' radius)	Absolute % Cover	Dominant Species	Indicator Staus
1				
2				
3				
4				
5				
		0	= Total Cover	

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column totals	100 (A)		500 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation

___ Dominance test is >50%

___ Prevalence index is ≤3.0*

___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)

___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and welland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? No

Remarks: (Include photo numbers here or on a separate sheet)

Exhibit F.

Preliminary Vegetation Survey

Preliminary Vegetation Survey
Bear Tree Development Wetland Delineation
Dane County, WI

Observer: Brian S. Lennie
Date: August 9, 2011
Location: Sections 28 and 33, T09N, R10E

WETLAND PLANT COMMUNITY #1

Latin Name	Common Name	Wetland Indicator Status
Acer negundo	Boxelder	FACW-
Alisma plantago-aquatica	Water plantain	OBL
Ambrosia trifida	Giant ragweed	FAC+
Arctium minus	Common burdock	UPL
Arisaema triphyllum	Jack-in-the-pulpit	FACW-
Aster lateriflorus	Calico aster	FACW-
Bidens vulgata	Tall beggar's ticks	FACU
Carex sp.	Sedge	
Carya cordiformis	Yellow-bud hickory	FAC[2]
Celtis occidentalis	Hackberry	FAC-
Circaea quadrisulcata	Enchanter's nightshade	FACU[2]
Cirsium arvense	Canada thistle	FACU[1]
Cirsium vulgare	Bull thistle	FACU-[1,2]
Echinochloa crusgalli	Barnyard grass	FACW
Echinocystis lobata	Wild cucumber	FACW-
Epilobium coloratum	Cinnamon willow herb	OBL
Erigeron strigosus	Daisy fleabane	FAC-
Fraxinus pennsylvanica	Green ash	FACW
Geum canadense	White avens	FAC
Hackelia virginiana	Stickseed	FAC[2]
Impatiens biflora	Orange jewelweed	FACW
Lactuca seriola	Prickly wild lettuce	FAC[1]
Lonicera bella	Hybrid honeysuckle	FACU-[1]
Penthorum sedoides	Ditch stonecrop	OBL
Phalaris arundinacea	Reed canary grass	FACW+[1]
Picea abies	Norway spruce	NI[1,2,3]
Pilea pumila	Clearweed	FACW
Plantago major	Common plantain	FAC+[1]
Polygonum pensylvanicum	Pinkweed	FACW+
Populus deltoides	Cottonwood	FAC+

Prunus serotina	Black cherry	FACU[2]
Quercus macrocarpa	Bur oak	FAC-
Quercus rubra	Red oak	FACU[2]
Rhamnus cathartica	Common buckthorn	FAC-[1]
Rhus radicans	Poison ivy	FAC+[2]
Ribes americanum	Wild black currant	FACW
Ribes cynosbati	Pasture gooseberry	UPL[2]
Rosa multiflora	Multiflora rose	FACU[1,2]
Rubus occidentalis	Black raspberry	UPL[2]
Rubus strigosus	Red raspberry	FACW-
Rumex crispus	Curly dock	FAC+[1]
Salix nigra	Black willow	OBL
Scutellaria lateriflora	Sideflower/Blue skullcap	OBL
Setaria sp.	Foxtail	
Solidago gigantea	Giant goldenrod	FACW
Solidago graminifolia	Grassleaf goldenrod	FACW-
Sonchus arvensis	Sow thistle	FAC-[1,2]
Ulmus americana	American elm	FACW-
Urtica dioica	Stinging nettle	FAC+[1]
Viburnum lentago	Nannyberry	FAC+[2]
Vitis riparia	River-bank grape	FACW-

1 Alien, non-native plant species
2 Growing along the wetland edge
3 Planted

Total number of plant species: 51
Total alien, non-native plant species: 13 (25%)

Exhibit G.

Site Photos

Wetland Delineation Site Photos
Bear Tree Development Wetland Delineation
Dane County, WI

Photo 1: Soil Pit-Sample Site 1-Upland.

Photo 2: Soil Pit-Sample Site 1-Upland.

Wetland Delineation Site Photos
Bear Tree Development Wetland Delineation
Dane County, WI

Photo 3: Soil Pit-Sample Site 2-Upland.

Photo 4: Soil Pit-Sample Site 2-Upland.

Wetland Delineation Site Photos
Bear Tree Development Wetland Delineation
Dane County, WI

Photo 5: Soil Pit-Sample Site 3-Wetland, Plant Community Area 1.

Photo 6: Plant Community Area 1, Soil Pit-Sample Site 3-Wetland.

Wetland Delineation Site Photos
Bear Tree Development Wetland Delineation
Dane County, WI

Photo 11: Soil Pit-Sample Site 4-Upland

Photo 12: Soil Pit-Sample Site 4-Upland.

Exhibit H.

Surface Waterway Map

WDNR Waterway Map
Bear Tree Development Wetland Delineation
Dane County, WI

Source: WDNR Surface Water Viewer
Southwest ½ of Section 28 and Section 33, Township 09 North, Range 10 East
Not to scale. North ↑
Project Limits are Approximate

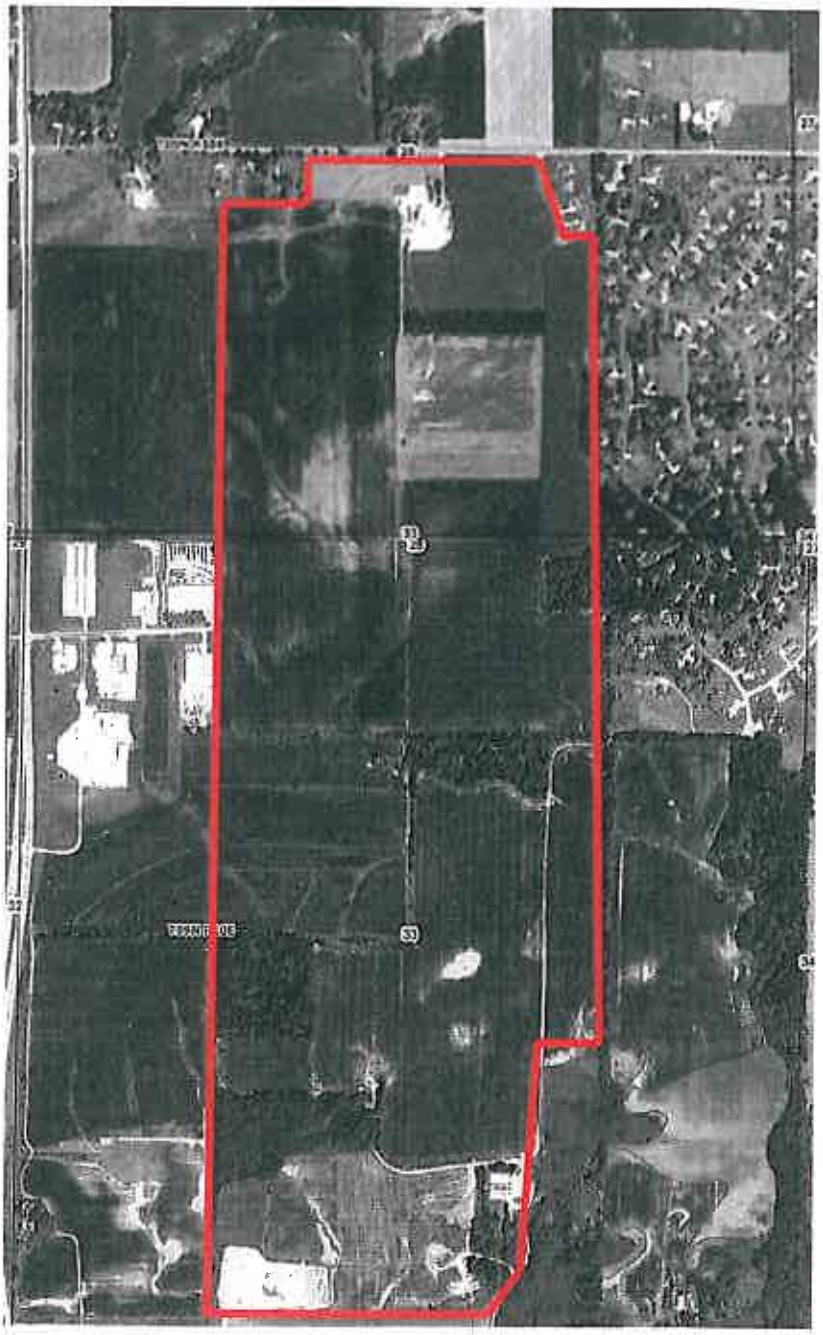
Bonestroo

Stantec

Exhibit I.

NRCS Wetland Inventory Map

NRCS Wetland Inventory Map
Bear Tree Development Wetland Delineation
Dane County, WI



Source: NRCS
Southwest ½ of Section 28 and Section 33, Township 09 North, Range 10 East
Not to scale. North ↑
Project Limits are Approximate

Bonestroo

Stantec

Exhibit J.

National Weather Service Climate Data – 8/09/2011 Milwaukee Report
National Weather Service Precipitation Analysis – 8/01/2011 Milwaukee Report

These data are preliminary and have not undergone final quality control by the National Climatic Data Center (NCDC). Therefore, these data are subject to revision. Final and certified climate data can be accessed at the NCDC - http://www.ncdc.noaa.gov.

Climatological Report (Daily)

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000
CDUS43 KMKX 100646
CLIMSN


CLIMATE REPORT
NATIONAL WEATHER SERVICE IN MILWAUKEE
145 AM CDT WED AUG 10 2011


.....................................

...THE MADISON WI CLIMATE SUMMARY FOR AUGUST 9 2011...

CLIMATE NORMAL PERIOD 1981 TO 2010
CLIMATE RECORD PERIOD 1871 TO 2011


WEATHER ITEM   OBSERVED TIME   RECORD YEAR NORMAL DEPARTURE LAST
                VALUE   (LST)  VALUE       VALUE  FROM      YEAR
                                                   NORMAL
.....................................................................
TEMPERATURE (F)
 YESTERDAY
  MAXIMUM         79    356 PM  95    1936  80      -1        88
                                      1934
                                      1887
  MINIMUM         63   1159 PM  40    1972  60       3        70
  AVERAGE         71                       70       1        79

PRECIPITATION (IN)
  YESTERDAY       0.00           1.80 1960   0.14  -0.14     0.55
  MONTH TO DATE   0.94                       1.23  -0.29     1.57
  SINCE JUN 1     6.34                       9.95  -3.61    17.93
  SINCE JAN 1    18.18                      21.78  -3.60    27.98

SNOWFALL (IN)
  YESTERDAY       0.0            0.0  2007   0.0    0.0      0.0
  MONTH TO DATE   0.0                        0.0    0.0      0.0
  SINCE JUN 1     0.0                        0.0    0.0      0.0
  SINCE JUL 1     0.0                        0.0    0.0      0.0
  SNOW DEPTH      0

DEGREE DAYS
 HEATING
  YESTERDAY       0                          1     -1        0
  MONTH TO DATE   0                          6     -6        0
  SINCE JUN 1    40                         76    -36       15
  SINCE JUL 1     0                         16    -16        0

 COOLING
  YESTERDAY       6                          6      0       14
  MONTH TO DATE  101                        54     47       94
  SINCE JUN 1    614                       380    234      529
  SINCE JAN 1    661                       410    251      603
.....................................................................


WIND (MPH)
  HIGHEST WIND SPEED    16   HIGHEST WIND DIRECTION     W (280)
  HIGHEST GUST SPEED    26   HIGHEST GUST DIRECTION     W (270)
  AVERAGE WIND SPEED     7.2


SKY COVER
  POSSIBLE SUNSHINE  MM
  AVERAGE SKY COVER 0.5


WEATHER CONDITIONS
 THE FOLLOWING WEATHER WAS RECORDED YESTERDAY.
  FOG
```

```
RELATIVE HUMIDITY (PERCENT)
 HIGHEST     93          1200 AM
 LOWEST      45           100 PM
 AVERAGE     69

.....................................................


THE MADISON WI CLIMATE NORMALS FOR TODAY
                           NORMAL     RECORD     YEAR
 MAXIMUM TEMPERATURE (F)    80         94       1958
                                                1944
 MINIMUM TEMPERATURE (F)    60         44       1982


SUNRISE AND SUNSET
AUGUST 10 2011........SUNRISE   557 AM CDT   SUNSET   808 PM CDT
AUGUST 11 2011........SUNRISE   558 AM CDT   SUNSET   806 PM CDT

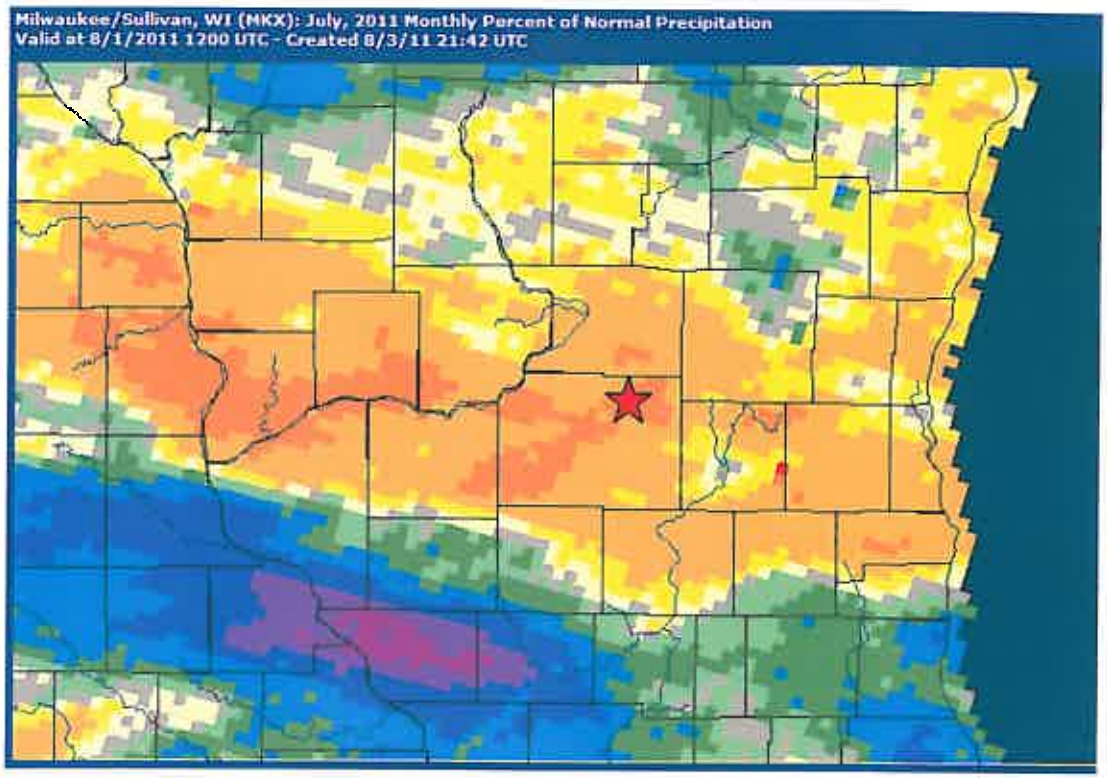

-  INDICATES NEGATIVE NUMBERS.
R  INDICATES RECORD WAS SET OR TIED.
MM INDICATES DATA IS MISSING.
T  INDICATES TRACE AMOUNT.
```

The U.S. Naval Observatory (USNO) computes astronomical data. Therefore, the NWS does not record, certify, or authenticate astronomical data. Computed times of sunrise, sunset, moonrise, moonset: and twilight, moon phases and other astronomical data are available from USNO's Astronomical Applications Department (http://www.usno.navy.mil). See http://www.usno.navy.mil/USNO/astronomical-applications/astronomical-information-center/litigation for information on using these data for legal purposes.

National Weather Service Precipitation Analysis

Bear Tree Development Wetland Delineation

Dane County, WI



Source: NOAA

Southwest ½ of Section 28 and Section 33, Township 09 North, Range 10 East

Not to scale. North ↑

= *Approximate Project Location*

Bonestroo

Stantec

Certificate of Attendance

University of Wisconsin-La Crosse

Brian Lennie

Has Completed: 19 Hours of

Advanced Wetland Delineation Training on this 31st day of August, 2001

Sponsored by

UW-La Crosse River Studies Center

and UW-La Crosse Continuing Education/Extension

in cooperation with

State of Wisconsin Department of Administration, Wisconsin Coastal Management Program

Southeastern Wisconsin Regional Planning Commission

United States Geological Survey

USDA-Natural Resources Conservation Service

Wisconsin Department of Natural Resources

Certificate of Attendance

University of Wisconsin-La Crosse

Brian Lennie

has completed 16 hours of advanced wetland delineation training sponsored by the River Studies Center and Continuing Education and Extension in cooperation with the Wisconsin Department of Administration, Wisconsin Coastal Management Council, Wisconsin Department of Natural Resources and UW-Extension, on this 18th day of August; 2000.

Mark Sandheinrich, Director
UW-La Crosse, River Studies Center

Dee Larsen Converse, Program Manager
Wisconsin Coastal Management Program

Donald M. Reed, Chief Biologist
S.E. Wisconsin Regional Planning Commission

M. Donald Campbell, Director
UW-La Crosse, Continuing Education and Extension

B. Dale Simon, Chief Biologist, Regulations Section
Wisconsin Department of Natural Resources

STORMWATER MANAGEMENT COMMISSION

Lake County Stormwater Management Commission

grants the designation of

Certified Wetland Specialist #C-010

to

Brian Lennie

In fulfillment of the professional requirements approved by the Lake County Stormwater Management Commission under the Lake County Watershed Development Ordinance (rev. 8-14-02).

Michael D. Warner, Chief Engineer

April 30, 2002

Glenn H. Westman, CWS Administrator

Environmental Technology Center

certifies that

Brian Lennie

has successfully completed the

U.S. Army Corps of Engineers
Wetland Delineation Certification Training Program

Issued Certificate No. 291 on this sixteenth day of August, 1996, in Oakbrook Terrace, Illinois

Richard Chinn, C.E.T., Director of Training
USACOE Certified Wetland Delineator

Environmental Technology Center
8413 Laurel Fair Circle, Suite 200, Tampa, FL 33610-7355
Ph: 813-621-8848 Fax: 813-621-0153

This training has been based in part on the U.S. Army Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 (1987 Manual), as provided for in the training materials developed in conjunction with Section 307(e) of the Water Resources Development Act of 1990 for the Wetland Delineator Certification Program.