APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):7/22/2022

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:CEMVR-RD-2022-737 (Iowa DOT)

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State:Iowa County/parish/borough: Story City: Municipality near Ames
Center coordinates of site (lat/long in degree decimal format): Lat. 42.008875° **N**, Long. -93.539656° **W**. Universal Transverse Mercator: UTM Z 15 NAD 83
Name of nearest waterbody: South Skunk River
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Mississippi River Name of watershed or Hydrologic Unit Code (HUC): 7080105
☐ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: 6/27/2022
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: 46linear feet: width (ft) and/or .01 acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Not Applicable.**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **Wetlands 1 thru 6 were determined to be non-jurisdictional. Each wetland was identified through off-site aerial photo interpretation and field visit follow up. Each wetland is a depressional wetland with no nexus to a downstream wetland or waterbody. Each wetland loses water via evaporation only and not through a tributary connection. Wetlands 1 thru 6 are isolated**.

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: WUS 1 is a perennial stream that flows to the West Branch of Indian Creek, which flows to Indian Creek, which flows to the South Skunk River. The South Skunk River flows to the Skunk River which flows to the Mississippi River, a TNW.
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☒ Tributary waters: **46** linear feet **4-6** width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs[8] that flow directly or indirectly into TNWs.
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.[9]
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☒ Other: (explain, if not covered above): **Wetlands 1 thru 6 are isolated wetlands with no downstream hydrological connection.**

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: 4.83 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:Appendix B - Waters of the U.S. Impact and Figure 4 Wetland Overview. Information and Wetland Delineation.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name:24K, Ames East IA.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation:Google Earth Soil Survey Layer.
☒ National wetlands inventory map(s). Cite name:Google Earth NWI layer.
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☐ Aerial (Name & Date): .
or ☒ Other (Name & Date):Pages 34-53 in the attached Appendix B Wetland Delineation.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify):PAges W.1 thru W. 12 in the attached wetland delineation depict the wetlands and their locations. They were identified by the Iowa DOT using the FSA Wetland Determination methodology. Other wetlands in the project area were identified, however they were not included on this AJD because they will not be impacted.

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

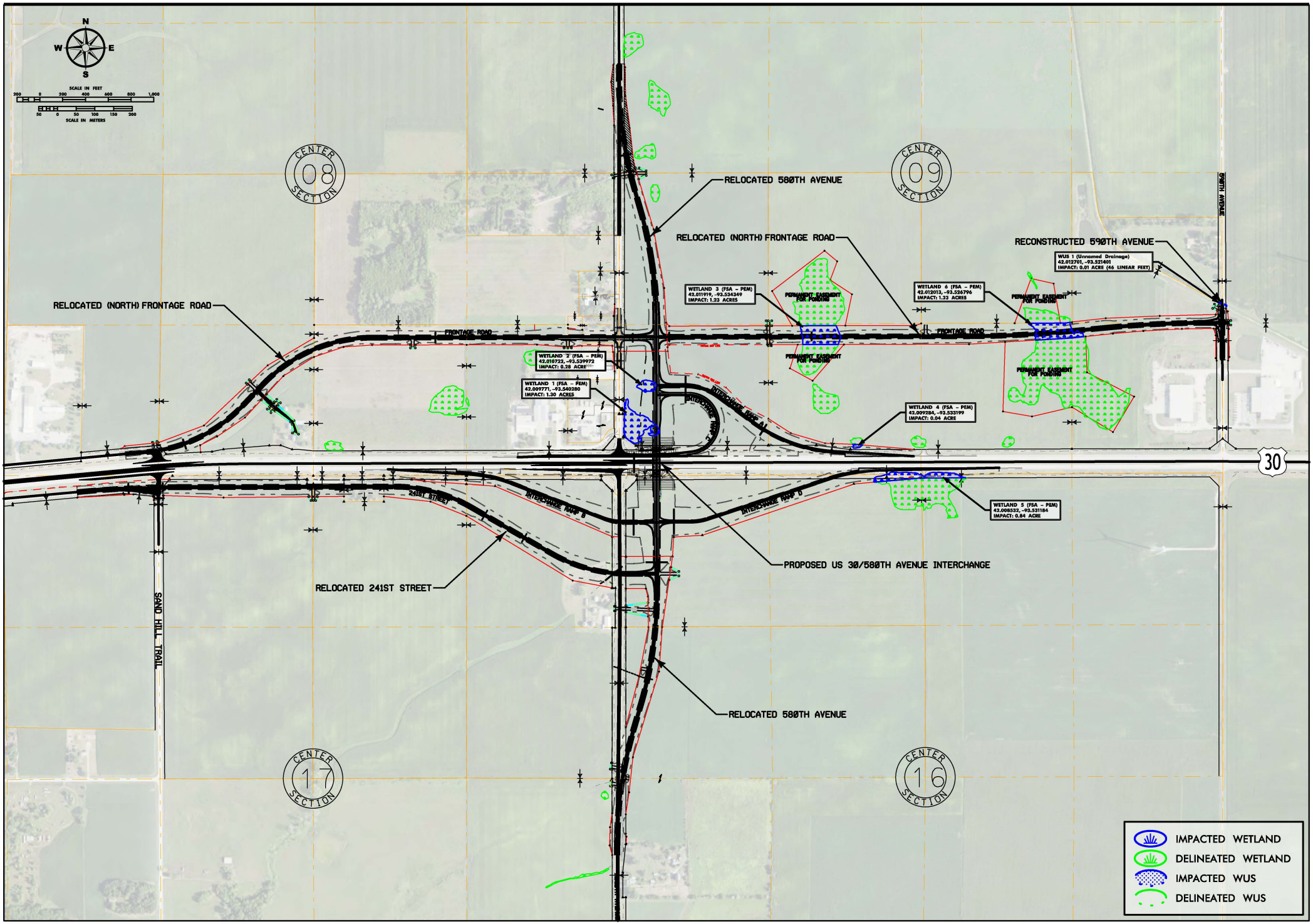

Figure 4. Project overview map, US Highway 30/580th Avenue interchange, Story County (T-83N, R-23W, Sections 8, 9, 10, 16, and 17).

APPENDIX B

WATERS OF THE U.S. IMPACT INFORMATION

Aerial Photos (Sheets W.1 – W.12)
FSA Data Forms and Maps
Wetland Delineation Data Forms
Stream Determination Data Form
Ground-Level Photos

N
W E
S

SCALE IN FEET
25 0 25 50 75 100
SCALE IN METERS
10 0 10 20 30

4
ROGER A. & FREDA
KINGSBURY I/2 INT,
AMY BOTTORFI/4 INT &
JAYSON D. KINGSBURY I/4 INT

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

5
MICHELLE M. FLYNN

FRONTAGE ROAD

1400
1405
1410
1415
1420
1425
1430

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

5S
MICHELLE M. FLYNN

5
MICHELLE M. FLYNN

DO NOT DISTURB BUILDINGS

Grant Twp.
T-83N R-23W
SEC. 8

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

6
BANKERS TRUST COMPANY

WESTBOUND US 30

EASTBOUND US 30

241ST STREET

11
ROD & BEV SIMPSON
FAMILY TRUST

9
ERIC W. &
NICOLE SCHLINGER LANG

10
RONALD E. &
ARLENE K. JENSEN

8
APPLEGATE HERITAGE
FARMS LLC

SAND HILL TRAIL

IMPACTED WETLAND
DELINEATED WETLAND
IMPACTED WUS
DELINEATED WUS

ENGLISH	IOWA DOT		STORY COUNTY	PROJECT NUMBER NHSX-030-5(258)--3H-85	SHEET NUMBER W.1	IOWADOT

N
W E
S
SCALE IN FEET
25 0 25 50 75 100
10 0 10 20 30
SCALE IN METERS

(6) TRUST COMPANY

(6) BANKERS TRUST COMPANY

(6A) LARSON LEASING LC

Grant Twp.
T-83N R-23W
SEC. 8

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

(2) MEL & SUE BREKKE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

WETLAND 2 (FSA - PEM)
42.010722, -93.539972
IMPACT: 0.28 ACRE

WETLAND 1 (FSA - PEM)
42.009771, -93.540280
IMPACT: 1.30 ACRES

(1) BREKKES TOWN & COUNTRY STORE, INC.

JAY DAVID JR. ARMSTRONG

SP 3C

SP 2C

(14) BRUCE L. KINGSBURY
DENNIS KINGSBURY

FUTURE ROW LINE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

(14) BRUCE L. KINGSBURY
DENNIS KINGSBURY

RAMP A

LOOP RAMP C

1430 1435 1440 1445 1450 1455 1460

140 135 130 125

WESTBOUND US 30

EASTBOUND US 30

SP 1

RAMP B

241ST STREET

580TH AVENUE

RAMP D

(10) RONALD E. & ARLENE K. JENSEN

Grant Twp.
T-83N R-23W
SEC. 17

(12) WELDON B. KINGSBURY TRUST A

(12) WELDON B. KINGSBURY TRUST A

IMPACTED WETLAND
DELINEATED WETLAND
IMPACTED WUS
DELINEATED WUS

ENGLISH	IOWA DOT		STORY COUNTY	PROJECT NUMBER NHSX-030-5(258)--3H-85	SHEET NUMBER W.2	IOWADOT

N
W E
S

SCALE IN FEET
25 0 25 50 75 100
10 0 10 20 30
SCALE IN METERS

RIGHT TO POND WATER
TO ELEVATION
959.0 FEET

19
LOWELL K. KINGSBURY

PERMANENT EASEMENT FOR
PONDING

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

4
NGSBURY
NGSBURY

Tile

Grant Twp.
T-83N R-23W
SEC. 9

19
LOWELL K. KINGSBURY

WETLAND 4 (FSA – PEM)
42.009284, -93.533199
IMPACT: 0.04 ACRE

1460 1465 1470 1475 1480 1485 1490

RAMP A

WESTBOUND US 30

EASTBOUND US 30

RAMP D

WETLAND 5 (FSA – PEM)
42.008532, -93.531184
IMPACT: 0.84 ACRE

SP-50

Grant Twp.
T-83N R-23W
SEC. 16

12
WELDON B. KINGSBURY
TRUST A

RANDALL A. &
CAROL COLLINGS 1/2 INT
LETSINGER FAMILY
TRUST 1/2 INT

19
LOWELL K. KINGSBURY

PERMANENT EASEMENT FOR
PONDING

RIGHT TO POND WATER
TO ELEVATION
957.0 FEET

RIGHT TO POND W
TO ELEVATION
957.0 FEET

IMPACTED WETLAND
DELINEATED WETLAND
IMPACTED WUS
DELINEATED WUS

SCALE IN FEET
25 0 25 50 75 100
SCALE IN METERS
10 0 10 20 30

Grant Twp.
T-83N R-23W
SEC. 17

95
100
105
110
115
120

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEME
CONSTRUCT ENTRA

580TH AVENUE

Tile

WELDON B. KINGSBURY IRUST A (12)

WELDON B. KINGSBURY IRUST A (12)

WELDON B. KINGSBURY IRUST A (12)

IMPACTED WETLAND
DELINEATED WETLAND
IMPACTED WUS
DELINEATED WUS

ENGLISH	IOWA DOT		STORY COUNTY	PROJECT NUMBER NHSX-030-5(258)--3H-85	SHEET NUMBER W.4	IOWADOT

SCALE IN FEET
25 0 25 50 75 100
SCALE IN METERS
10 0 10 20 30

241ST STREET
RAMP B
SP 1
SP 2
SP 3
WETLAND 1 (FSA – PEM)
42.009771, -93.540280
IMPACT: 1.30 ACRES
WETLAND 2 (FSA – PEM)
42.010722, -93.539972
IMPACT: 0.28 ACRE
JAY DAVID JR. & SUE BREKKE
(2)
BREKKES TOWN & COUNTRY STORE, INC.
(3)
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE
STATE OF IOWA A. WHEELER 2015 TRUSI
(1)
JAMES D. & KRISTINE M. ELLIOT
(15)
40' EASEMENT HEREBERT A. BEATRICE TAYLOR BOOK 101 PAGE 542
120
125
130
135
140
145
150
580TH AVENUE
EASEMENT TO T ENTRANCE
RARY EASEMENT TO STRUCT ENTRANCE
WELDON B. KINGSBURY IRUST A
(12)
RAMP D
EASTBOUND US 30
WESTBOUND US 30
LOOP RAMP C
RAMP A
BRUCE L. KINGSBURY DENNIS KINGSBURY
(14)
FUTURE ROW LINE
EXISTING ROW LINE
FRONTAGE ROAD
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE
Tile

IMPACTED WETLAND
DELINEATED WETLAND
IMPACTED WUS
DELINEATED WUS

ENGLISH	IOWA DOT		STORY COUNTY	PROJECT NUMBER NHSX-030-5(258)--3H-85	SHEET NUMBER W.5	IOWA DOT

SCALE IN FEET
25 0 25 50 75 100
10 0 10 20 30
SCALE IN METERS

LUX LLC

PATRICK D. & JENNIFER M. BLAIR (16)

JANICE S. SCHROER REV. TRUST (17)

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

155

160

165

170

175

180

150

580TH AVENUE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

BRUCE L. KINGSBURY DENNIS KINGSBURY (14)

IMPACTED WETLAND
DELINEATED WETLAND
IMPACTED WUS
DELINEATED WUS

SCALE IN FEET
25 0 25 50 75 100
10 0 10 20 30
SCALE IN METERS

4
ROGER A. & FREDA KINGSBURY 1/2 INT,
AMY BOTTORF 1/4 INT &
JAYSON D. KINGSBURY 1/4 INT

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

Grant Twp.
T-83N R-23W
SEC. 8

5
MICHELLE M. FLYNN

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

5
MICHELLE M. FLYNN

5S
MICHELLE M. FLYNN

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

5
MICHELLE M. FLYNN

DO NOT DISTURB BUILDINGS

6
BANKERS TRUST COMPANY

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

8
APPLEGATE HERITAGE FARMS LLC

9
ERIC W. &
NICOLE SCHLINGER LANG

6005 6010 6015 6020 6025 6030 6035 LD

1400 1405 1410 1415 1420 1425

FRONTAGE ROAD

WESTBOUND US 30

EASTBOUND US 30

241ST STREET

SAND HILL TRAIL

Tile

IMPACTED WETLAND
DELINEATED WETLAND
IMPACTED WUS
DELINEATED WUS

N
W E
S

SCALE IN FEET
25 0 25 50 75 100
10 0 10 20 30
SCALE IN METERS

LDY LLC

Grant Twp.
T-83N R-23W
SEC. 8

Grant Twp.
T-83N R-23W
SEC. 9

LDY LLC

LDY LLC

150

145

140

135

6035

6040

6045

6050

6055

6060

6065

1430

1435

1440

1445

1450

1455

580TH AVENUE

TEMPORARY CONSTRUCTION

(1) STATE OF IOWA
JON A. WHEELER 2015 TRUST

BOB & JANE ZEHM

(15) JAMES D. & KRISTINE M. ELLIOT

FRONTAGE ROAD

FRONTAGE ROAD

(6) BANKERS TRUST COMPANY

(6) BANKERS TRUST COMPANY

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

(6A) LARSON LEASING LC

(2) MEL & SUE BREKKE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

WETLAND 2 (FSA – PEM)
42.010722, -93.539972
IMPACT: 0.28 ACRE

WETLAND 1 (FSA – PEM)
42.009771, -93.540280
IMPACT: 1.30 ACRES

(3) BREKKES TOWN & COUNTRY STORE, INC.

JAY DAVID JR. ARMSTRONG

SP 30

SP 20

RAMP A

LOOP RAMP C

BRUCE L.
DENNIS

Tile

IMPACTED WETLAND
DELINEATED WETLAND
IMPACTED WUS
DELINEATED WUS

ENGLISH	IOWA DOT		STORY COUNTY	PROJECT NUMBER	NHSX-030-5(258)--3H-85	SHEET NUMBER W.8	IOWADOT

N
W E
S
SCALE IN FEET
25 0 25 50 75 100
10 0 10 20 30
SCALE IN METERS

NGSBURY
NGSBURY

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

PERMANENT EASEMENT FOR PONDING

(19) LOWELL K. KINGSBURY

Grant Twp.
T-83N R-23W
SEC. 9

PERMANENT EASEMENT FOR PONDING

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

RIGHT TO POND WATER TO ELEVATION 959.0 FEET

(14) BRUCE L. KINGSBURY
DENNIS KINGSBURY

(22) RANDY BREKKE

RIGHT TO POND WATER TO ELEVATION 957.0 FEET

6065 6070 6075 6080 6085 6090 6095

OSP 4

FRONTAGE ROAD

OSP 6

FUTURE ROW LINE

(14) BRUCE L. KINGSBURY
DENNIS KINGSBURY

WETLAND 3 (FSA – PEM)
42.011919, -93.534349
IMPACT: 1.23 ACRES

RIGHT TO POND WATER TO ELEVATION 959.0 FEET

(19) LOWELL K. KINGSBURY

WETLAND 6 (FSA – PEM)
42.012013, -93.526796
IMPACT: 1.23 ACRES

(19) LOWELL K. KINGSBURY

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

FUTURE ROW LINE

(14) BRUCE L. KINGSBURY
DENNIS KINGSBURY

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

PERMANENT EASEMENT FOR PONDING

PERMANENT EASEMENT FOR PONDING

RIGHT TO POND WATER TO ELEVATION 957.0 FEET

Tile

LOOP RAMP C

RAMP A

(19) LOWELL K. KINGSBURY

(19) LOWELL K. KINGSBURY

(19) LOWELL K. KINGSBURY

WETLAND 4 (FSA – PEM)
42.009284, -93.533199
IMPACT: 0.04 ACRE

1455 1460 1465 1470 1475 1480 1485

IMPACTED WETLAND
DELINEATED WETLAND
IMPACTED WUS
DELINEATED WUS

ENGLISH	IOWA DOT		STORY COUNTY	PROJECT NUMBER	NHSX-030-5(258)--3H-85	SHEET NUMBER W.9	IOWADOT

N
W E
S

SCALE IN FEET
25 0 25 50 75 100
10 0 10 20 30
SCALE IN METERS

OR

WAYNE SATRE

21
VETTER EQUIPMENT COMPANY

Grant Twp.
T-83N R-23W
SEC. 9

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

WUS 1 (Unnamed Drainage)
42.012701, -93.521401
IMPACT: 0.01 ACRE (46 LINEAR FEET)

24
KINNEY-LINDSTROM FOUNDATION INC

Grant Twp.
T-83N R-23W
SEC. 10

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

POND WATER EVATION FEET

6095

6100

6105

6110

WETLAND 6 (FSA - PEM)
42.012013, -93.526796
IMPACT: 1.23 ACRES

FRONTAGE ROAD

SP 6

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

21
VETTER EQUIPMENT COMPANY

23
MERVIN A. IHLE RESIDUARY TRUST
CP: CNH INDUSTRIAL F/K/A FLEXI-COIL, INC.

PERMANENT EASEMENT FOR PONDING

POND WATER VATION FEET

RIGHT TO POND WATER TO ELEVATION 957.0 FEET

590TH AVENUE

1485 1490 1495 1500 1505 1510 1515

IMPACTED WETLAND
DELINEATED WETLAND
IMPACTED WUS
DELINEATED WUS

N
W E
S
SCALE IN FEET
25 0 25 50 75 100
10 0 10 20 30
SCALE IN METERS

4 ROGER A. & FREDA KINGSBURY 1/2 INT,
AMY BOTTORF 1/4 INT &
JAYSON D. KINGSBURY 1/4 INT

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

5 MICHELLE M. FLYNN

FRONTAGE ROAD

5S MICHELLE M. FLYNN

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

5 MICHELLE M. FLYNN

DO NOT DISTURB BUILDINGS

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

Grant Twp.
T-83N R-23W
SEC. 8

1400 1405 1410 1415 1420 1425

5005 5010 5015 5020 5025 5030 5035

WESTBOUND US 30

EASTBOUND US 30

241ST STREET

8 APPLEGATE HERITAGE FARMS LLC

9 ERIC W. & NICOLE SCHLINGER LANG

SAND HILL TRAIL

Grant Twp.
T-83N R-23W
SEC. 17

IMPACTED WETLAND
DELINEATED WETLAND
IMPACTED WUS
DELINEATED WUS

Grant Twp.
T-83N R-23W
SEC. 8

6A
LARSON LEASING LC

6
BANKERS TRUST COMPANY

1430
1435
1440
1445

WESTBOUND US 30
EASTBOUND US 30

SP 1

RAMP B
RAMP D

5040
5045
5050
5055
5085

580TH AVENUE

Grant Twp.
T-83N R-23W
SEC. 16

12
WELDON B. KINGSBURY TRUST A

241ST STREET

11
ROD & BEV SIMPSON FAMILY TRUST

10
RONALD F. & ARLENE K. JENSEN

Grant Twp.
T-83N R-23W
SEC. 17

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

Tile

N
E
S
W

SCALE IN FEET
25 0 25 50 75 100

SCALE IN METERS
10 0 10 20 30

IMPACTED WETLAND
DELINEATED WETLAND
IMPACTED WUS
DELINEATED WUS

STORY COUNTY | PROJECT NUMBER NHSX-030-5(258)--3H-85 | SHEET NUMBER W.12 | IOWA DOT

DATA FORM

FSA Offsite Determination for Agricultural Lands

(Iowa 1994 Wetland Mapping Conventions for Agricultural Lands for 1985 Food Security Act as Amended and Section 404 Clean Water Act)

Project/Site: US Highway 30/580th Avenue interchange	Date: March 30, 2022
Applicant/Owner: Iowa Department of Transportation	County: Story
Investigator(s): Marc Solberg	State: Iowa

FSA Wetland Site ID	Twp	Range	Section	NWI (Y/N)	FSA Slides – Enter Wetland Signature(s) From List Below													Meets Wetland Mapping Convention (Y / N)	Final Determination (Y/N)	Wetland Size (acres)
					YR = 2004			YR = 2006			YR = 2007			YR = 2009			YR = 2017			YR = 2019			YR = 2021					
					W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)			
1	83N	23W	8	N	6												3			3			3, 4			Y	N	
2	83N	23W	8	N													3									N	N	
3	83N	23W	8	N													3									N	N	
4	83N	23W	8	N										4												N	N	
5	83N	23W	8	N	4												3									N	N	
6	83N	23W	8	N				4																		N	N	
7	83N	23W	8	N	4			4			4			4						3						Y	N	
8	83N	23W	8	N	4			4						4												N	N	
9	83N	23W	8	N				4						4												N	N	
10	83N	23W	8	N				4			4									3, 4						N	N	
11	83N	23W	8	N	4						4															N	N	
12	83N	23W	8	N				4																		N	N	
13	83N	23W	8	N				4			4									4						N	N	
14	83N	23W	8	N	4			4						4												N	N	
15	83N	23W	8	N	4			4			4			4			3			3						Y	Y	0.23
16	83N	23W	8	N				4						4												N	N	
17	83N	23W	8	N				4						4			3									N	N	
18	83N	23W	8	N							4			4			3, 4			3			3			Y	Y	1.39
19	83N	23W	8	N				4						4												N	N	
20	83N	23W	8	N							4			4												N	N	

Wetland Signatures:

1 = Hydrophytic vegetation (observed as different color than crop or forage)

2 = Surface water (oxbows, depressions, etc.)

3 = Flooded or drowned out crops, wet/bare soil within cropped fields

4 = Stressed crops due to wetness (crop stress is seen as areas of yellowish tined crop, or sparse canopy of coverage of crop, that has been in stress due to wetness)

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FSA Offsite Determination for Agricultural Lands

(Iowa 1994 Wetland Mapping Conventions for Agricultural Lands for 1985 Food Security Act as Amended and Section 404 Clean Water Act)

Project/Site: US Highway 30/580th Avenue interchange	Date: March 30, 2022
Applicant/Owner: Iowa Department of Transportation	County: Story
Investigator(s): Marc Solberg	State: Iowa

FSA Wetland Site ID	Twp	Range	Section	NWI (Y/N)	FSA Slides – Enter Wetland Signature(s) From List Below													Meets Wetland Mapping Convention (Y / N)	Final Determination (Y/N)	Wetland Size (acres)
					YR = 2004			YR = 2006			YR = 2007			YR = 2009			YR = 2017			YR = 2019			YR = 2021					
					W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)			
21	83N	23W	8	N										4											N	N	
22	83N	23W	8	N										4									3		N	N	
23	83N	23W	8	N							4														N	N	
24	83N	23W	8	N							4														N	N	
25	83N	23W	8	N							4			4						3					N	N	
26	83N	23W	8	N				4																	N	N	
27	83N	23W	8	N							4			4									3, 4		N	N	
28	83N	23W	8	N	4			4			4			6			6			6			4, 6		Y	Y	0.64
29	83N	23W	8	N	4									4			4			4					Y	N	
30	83N	23W	8	N													4								N	N	
31	83N	23W	8	N	4			3			4			4											Y	N	
32	83N	23W	8	N							4														N	N	
33	83N	23W	17	N													3								N	N	
34	83N	23W	17	N	4									3			3								N	N	
35	83N	23W	17	N													3								N	N	
36	83N	23W	17	N							4			4						3, 4					N	N	
37	83N	23W	17	N	4						4			4			3			4					Y	N	
38	83N	23W	17	N													3						3		N	N	
39	83N	23W	17	N	4									3						3, 4					N	N	
40	83N	23W	17	N	4						4						3			3					Y	N	

Wetland Signatures:

1 = Hydrophytic vegetation (observed as different color than crop or forage)

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FSA Offsite Determination for Agricultural Lands

(Iowa 1994 Wetland Mapping Conventions for Agricultural Lands for 1985 Food Security Act as Amended and Section 404 Clean Water Act)

Project/Site: US Highway 30/580th Avenue interchange	Date: March 30, 2022
Applicant/Owner: Iowa Department of Transportation	County: Story
Investigator(s): Marc Solberg	State: Iowa

FSA Wetland Site ID	Twp	Range	Section	NWI (Y/N)	FSA Slides – Enter Wetland Signature(s) From List Below														Meets Wetland Mapping Convention (Y / N)	Final Determination (Y/N)	Wetland Size (acres)
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					W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)			
41	83N	23W	17	N	4									4						3						N	N	
42	83N	23W	17	N	4															3						N	N	
43	83N	23W	17	N	4			4						4			4			4						Y	N	
44	83N	23W	17	N	4						4			3, 4						3, 4						Y	Y	0.15
45	83N	23W	9	N				3			3, 4			3, 4			3			3						Y	Y	1.30
46	83N	23W	9	N	3, 4						3, 4			3, 4												N	N	
47	83N	23W	9	N	4			3			3, 4			3, 4			3			3						Y	Y	0.28
48	83N	23W	9	N							4												4			N	N	
49	83N	23W	9	N	4			3						4			4			3, 4						N	N	
50	83N	23W	9	N							4			4			4									N	N	
51	83N	23W	9	N	3						3, 4			4						3						Y	Y	0.21
52	83N	23W	9	N	3, 4			3						3						3, 4						Y	Y	0.39
53	83N	23W	9	N				3																		N	N	
54	83N	23W	9	N	4			3						4												N	N	
55	83N	23W	9	N	3, 4, 5						3			3, 4						3, 4						Y	Y	0.83
56	83N	23W	9	N	4						3, 4						4			4						Y	N	
57	83N	23W	9	N	3, 4, 5			3, 4			3, 4			3, 4						3, 4						Y	Y	0.61
58	83N	23W	9	N										4												N	N	
59	83N	23W	9	N	4			4			4			4						3						Y	N	
60	83N	23W	9	N	3, 4, 5			3, 4			3			3, 4						3, 5						Y	Y	6.60

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DATA FORM

FSA Offsite Determination for Agricultural Lands

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Project/Site: US Highway 30/580th Avenue interchange	Date: March 30, 2022
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					YR = 2004			YR = 2006			YR = 2007			YR = 2009			YR = 2017			YR = 2019			YR = 2021					
					W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)			
61	83N	23W	9	N	4, 5						3			4						3						N	N	
62	83N	23W	9	N	4, 5						3			3						3, 5						Y	Y	0.89
63	83N	23W	9	N	3, 4						3			3, 4			3			3			3			Y	Y	0.17
64	83N	23W	9	N										4												N	N	
65	83N	23W	9	N										4												N	N	
66	83N	23W	9	N										4						3						N	N	
67	83N	23W	9	N																3						N	N	
68	83N	23W	9	N	4															3						N	N	
69	83N	23W	9	N	4															3						N	N	
70	83N	23W	9	N							4															N	N	
71	83N	23W	9	N							4			4												N	N	
72	83N	23W	9	N							4			4												N	N	
73	83N	23W	9	N	4						3						3			3			4			Y	Y	0.22
74	83N	23W	9	N										4			3									N	N	
75	83N	23W	9	N													3									N	N	
76	83N	23W	9	N													3									N	N	
77	83N	23W	9	N																3						N	N	
78	83N	23W	9	N	4						3						3			4						Y	Y	0.16
79	83N	23W	9	N	4, 5						3, 4			3, 4			3			3						Y	Y	11.70
80	83N	23W	9	N							4									4						N	N	

Wetland Signatures:

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FSA Offsite Determination for Agricultural Lands

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Project/Site: US Highway 30/580th Avenue interchange	Date: March 30, 2022
Applicant/Owner: Iowa Department of Transportation	County: Story
Investigator(s): Marc Solberg	State: Iowa

FSA Wetland Site ID	Twp	Range	Section	NWI (Y/N)	FSA Slides – Enter Wetland Signature(s) From List Below														Meets Wetland Mapping Convention (Y / N)	Final Determination (Y/N)	Wetland Size (acres)
					YR = 2004			YR = 2006			YR = 2007			YR = 2009			YR = 2017			YR = 2019			YR = 2021					
					W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)	W	D	(N)			
81	83N	23W	9	N	4						4			4			3			3			4			Y	Y	See '79'
82	83N	23W	9	N	4												3			3						N	N	
83	83N	23W	16	N																4						N	N	
84	83N	23W	16	N	1, 3, 4			1, 3			1, 3, 4			1, 3, 4						1, 3						Y	Y	4.23
85	83N	23W	16	N	1, 3, 4, 5			1, 3			3, 4			3, 4			3			1, 3						Y	Y	
86	83N	23W	16	N	4						3			4												N	N	
87	83N	23W	16	N																3						N	N	
88	83N	23W	16	N																4						N	N	

Wetland Signatures:

1 = Hydrophytic vegetation (observed as different color than crop or forage)

2 = Surface water (oxbows, depressions, etc.)

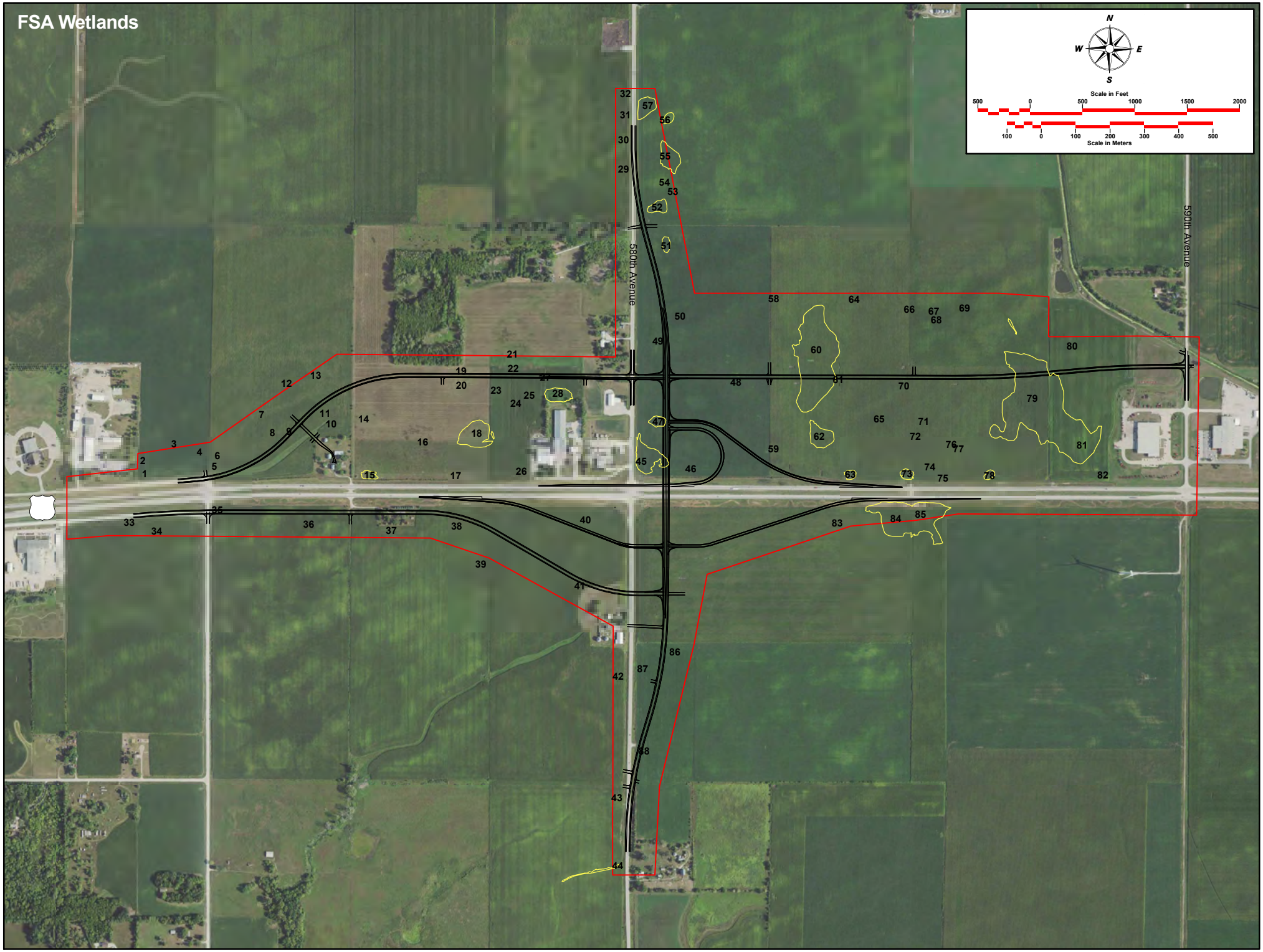
3 = Flooded or drowned out crops, wet/bare soil within cropped fields

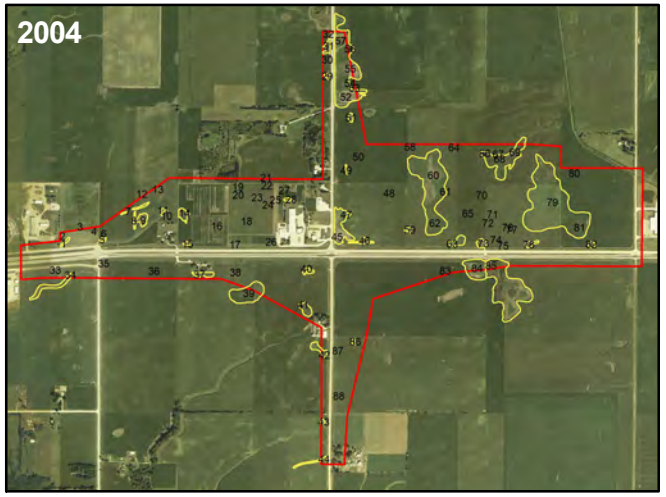
4 = Stressed crops due to wetness (crop stress is seen as areas of yellowish tined crop, or sparse canopy of coverage of crop, that has been in stress due to wetness)

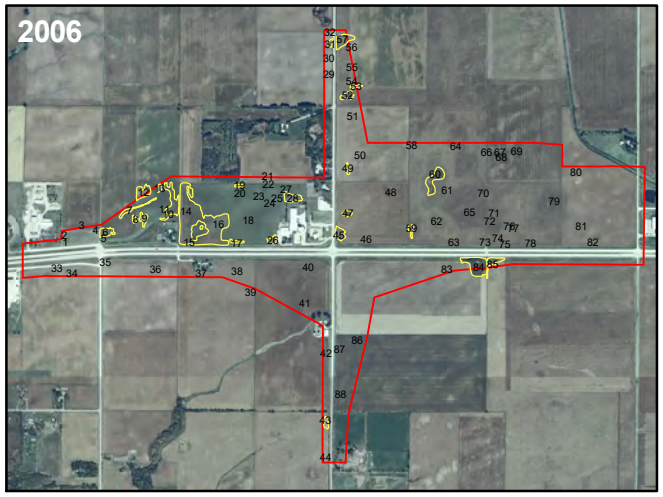
5 = Difference in vegetation within field due to different planting dates

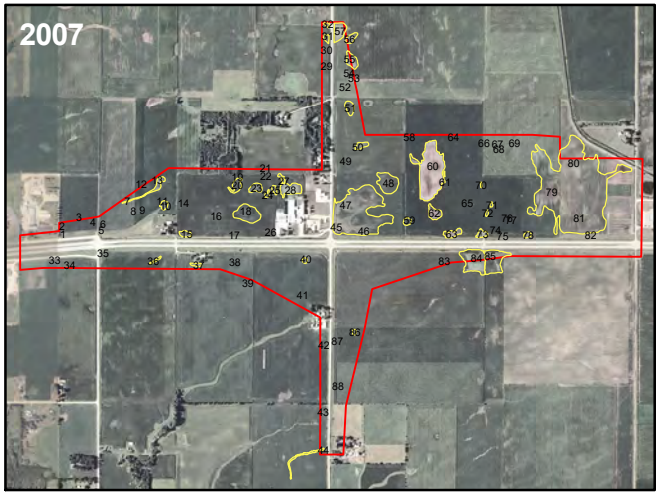
6 = Inclusion of wet areas as set aside (these generally show on photos as areas of close grown legumes/grasses surrounded by or bordering areas of row crops)

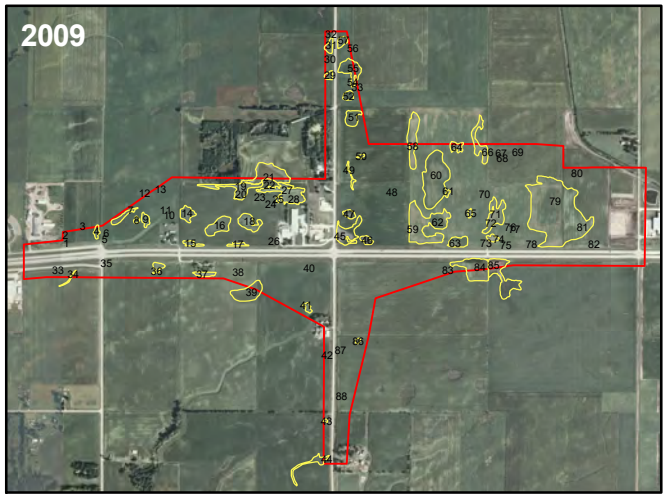
7 = Patches of greener vegetation during years of below normal precipitation (use only as a signature for a "dry year" photo)

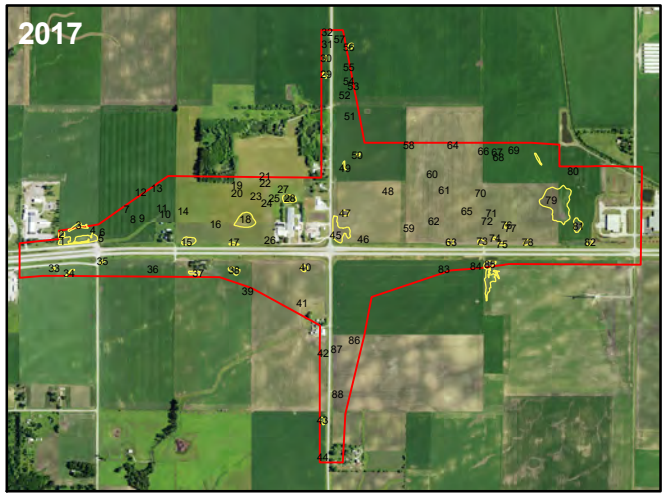

FSA Wetlands
N
W
E
S
Scale in Feet
500 0 500 1000 1500 2000
100 0 100 200 300 400 500
Scale in Meters
580th Avenue
590th Avenue

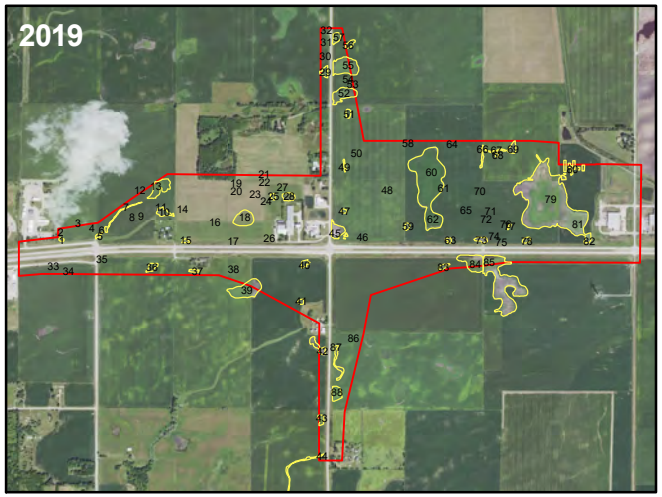

2004

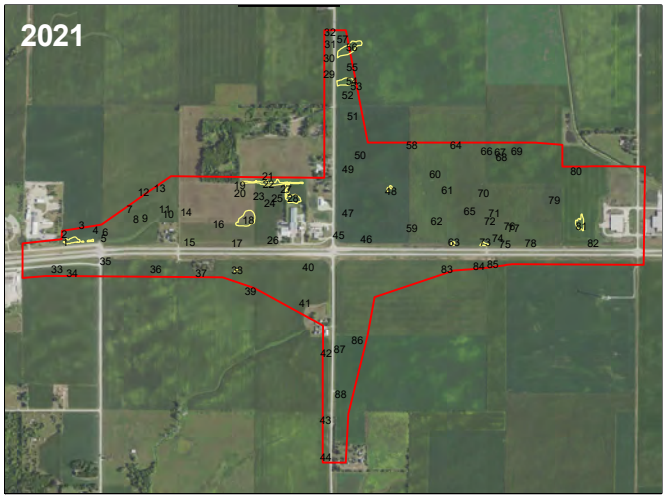

2006


2007


2009


2017


2019


2021

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 30/580th Avenue interchange City/County: Story Sampling Date: November 15, 2021

Applicant/Owner: Iowa Department of Transportation State: Iowa Sampling Point: SP 1

Investigator(s): Marc Solberg, Veronica LaPietra Section, Township, Range: Section 17, T-83N, R-23W

Landform (hillslope, terrace, etc.): plain Local Relief (Concave, Convex, None): none

Slope (%): <1% Lat: 42.008063 Long: -93.542508 Datum: NAD 83

Soil Map Unit Name: Webster clay loam, Bemis moraine, 0 to 2 percent slopes NWI Classification: non-wetland

Are climactic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No ____	**Is the Sampled Area within a Wetland?**	**Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No ____		
Wetland Hydrology Present?	Yes X	No ____		

Remarks: Climactic Conditions: region is in a moderate drought at the time of the site visit (Source: Iowa Drought Monitor, November 9, 2021).
Soils & Vegetation: disturbed by agriculture (sample point taken within a row-crop agricultural field).
Sample point taken to verify soils from FSA Determination - area determined to be non-wetland - area lacks geomorphic position and local relief, and soils lacked hydric soil indicator(s).

VEGETATION – Use scientific name of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot Size: ____)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Sapling/Shrub Stratum (Plot Size: ____)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot Size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
= Total Cover			
Woody Vine Stratum (Plot Size: ____)			
1.			
2.			
= Total Cover			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply By:	
OBL Species	x 1 =	
FACW Species	x 2 =	
FAC Species	x 3 =	
FACU Species	x 4 =	
UPL Species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
See Photo 13 in the Ground-Level Photographs section of Appendix B (page B-7)

WETLAND DETERMINATION DATA FORM – Midwest Region

SOIL

Sampling Point: **SP 1**

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

Depth	Matrix		Redox Features					
(inches)	Color (Moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24	2.5Y 2.5/1	100	---	---	---	---	CL	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (Inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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)
___ True Aquatic Plants (B14)
___ 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)
___ Gauge or Well Data (D9)
X Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ 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)
___ FAC-Neutral Test (D5)

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? **Yes** X **No** _____

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

Remarks: FSA Determination: hydrology signatures observed in 4 of the 7 years.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 30/580th Avenue interchange City/County: Story Sampling Date: November 15, 2021

Applicant/Owner: Iowa Department of Transportation State: Iowa Sampling Point: SP 2

Investigator(s): Marc Solberg, Veronica LaPietra Section, Township, Range: Section 9, T-83N, R-23W

Landform (hillslope, terrace, etc.): road ditch Local Relief (Concave, Convex, None): concave

Slope (%): <1% Lat: 42.009460 Long: -93.540667 Datum: NAD 83

Soil Map Unit Name: Harps clay loam, Bemis moraine, 0 to 2 percent slopes NWI Classification: non-wetland

Are climactic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: Climactic Conditions: region is in a moderate drought at the time of the site visit (Source: Iowa Drought Monitor, November 9, 2021). Sample point taken within the road ditch in the northeast quadrant of the existing US 30/580th Avenue intersection. Area to determined to be non-wetland due to a lack of hydric soils and hydrology.

VEGETATION – Use scientific name of plants.

Tree Stratum (Plot Size: 15-ft. x 15-ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot Size: 15-ft. x 15-ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

Herb Stratum (Plot Size: 10-ft. x 10-ft.)			
1. reedcanary grass (Phalaris arundinacea)	98	Y	FACW
2. water smartweed (Persicaria amphibia)	2	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		

Woody Vine Stratum (Plot Size: 15-ft. x 15-ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply By:
OBL Species ____	x 1 = ____
FACW Species ____	x 2 = ____
FAC Species ____	x 3 = ____
FACU Species ____	x 4 = ____
UPL Species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
See Photo 14 in the Ground-Level Photographs section of Appendix B (page B-7)

WETLAND DETERMINATION DATA FORM – Midwest Region

SOIL

Sampling Point: **SP 2**

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

Depth	Matrix		Redox Features					
(inches)	Color (Moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 2.5/1	100	---	---	---	---	SIC	
4-6	2.5Y 2.5/1	90	2.5Y 4/2	10	C	M	SIC	
6-24	2.5Y 2.5/1	100	---	---	---	--	SIC	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (Inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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)
___ True Aquatic Plants (B14)
___ 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)
___ Gauge or Well Data (D9)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ 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)
X FAC-Neutral Test (D5)

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? **Yes** _____ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 30/580th Avenue interchange City/County: Story Sampling Date: November 15, 2021

Applicant/Owner: Iowa Department of Transportation State: Iowa Sampling Point: SP 3

Investigator(s): Marc Solberg, Veronica LaPietra Section, Township, Range: Section 9, T-83N, R-23W

Landform (hillslope, terrace, etc.): depression Local Relief (Concave, Convex, None): slightly concave

Slope (%): <1% Lat: 42.009711 Long: -93.540695 Datum: NAD 83

Soil Map Unit Name: Canisteo clay loam, Bemis moraine, 0 to 2 percent slopes NWI Classification: non-wetland

Are climactic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: Climactic Conditions: region is in a moderate drought at the time of the site visit (Source: Iowa Drought Monitor, November 9, 2021).
Soils & Vegetation: disturbed by agriculture (sample point taken near the edge of a row-crop agricultural field).
Sample point taken to verify soils from FSA Determination - area determined to be emergent wetland (Wetland 1). Although the soils at the sample point lack hydric soil indicators, geomorphic position and local relief are present and it is obvious in the field that this area will pond water. Wetland boundary delineation based on FSA Determination.

VEGETATION – Use scientific name of plants.

Tree Stratum (Plot Size: 5-ft. radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot Size: 5-ft. radius)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Herb Stratum (Plot Size: 5-ft. radius)			
1. rough-fruit amaranth (Amaranthus tuberculatus)	15	Y	OBL
2. reedcanary grass (Phalaris arundinacea)	10	Y	FACW
3. fall panic grass (Panicum dichotomiflorum)	5	N	FACW
4. foxtail barley (Hordeum jubatum)	5	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	35 = Total Cover		

Woody Vine Stratum (Plot Size: 5-ft. radius)			
1.			
2.			
	____ = Total Cover		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply By:	
OBL Species	x 1 =	
FACW Species	x 2 =	
FAC Species	x 3 =	
FACU Species	x 4 =	
UPL Species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Approximately 65% of plot area is harvested crop (i.e. soybeans), 35% is natural vegetation.
Vegetation listed above is found along the edge of the field; vegetation determination based on species growing along the edge of the field.
See Photo 18 in the Ground-Level Photographs section of Appendix B (page B-9)

WETLAND DETERMINATION DATA FORM – Midwest Region

SOIL

Sampling Point: **SP 3**

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

Depth	Matrix		Redox Features					
(inches)	Color (Moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100	---	---	---	---	SIC	
6-20	2.5Y 2.5/1	100	---	---	---	---	CL	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ 2 cm Muck (A10)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 5 cm Mucky Peat or Peat (S3)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (Inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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)
___ True Aquatic Plants (B14)
___ 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)
___ Gauge or Well Data (D9)
X Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ 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)
X Geomorphic Position (D2)
X FAC-Neutral Test (D5)

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? **Yes** X **No** _____

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

Remarks: FSA Determination: hydrology signatures observed in 5 of the 7 years.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 30/580th Avenue interchange City/County: Story Sampling Date: November 15, 2021

Applicant/Owner: Iowa Department of Transportation State: Iowa Sampling Point: SP 4

Investigator(s): Marc Solberg, Veronica LaPietra Section, Township, Range: Section 9, T-83N, R-23W

Landform (hillslope, terrace, etc.): depression Local Relief (Concave, Convex, None): concave

Slope (%): <1% Lat: 42.012014 Long: -93.534515 Datum: NAD 83

Soil Map Unit Name: Okoboji silty clay loam, 0 to 1 percent slopes NWI Classification: non-wetland

Are climactic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: Climactic Conditions: region is in a moderate drought at the time of the site visit (Source: Iowa Drought Monitor, November 9, 2021).
Soils & Vegetation: disturbed by agriculture (sample point taken within a row-crop agricultural field).
Sample point taken to verify soils from FSA Determination - area determined to be emergent wetland (Wetland 4). Although the soils at the sample point lack hydric soil indicators, geomorphic position and local relief are present. Wetland boundary delineation based on FSA Determination.

VEGETATION – Use scientific name of plants.

Tree Stratum (Plot Size: 5-ft. radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot Size: 5-ft. radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot Size: 5-ft. radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	= Total Cover		

Woody Vine Stratum (Plot Size: 5-ft. radius)			
1.			
2.			
	= Total Cover		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply By:	
OBL Species	x 1 =	
FACW Species	x 2 =	
FAC Species	x 3 =	
FACU Species	x 4 =	
UPL Species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Approximately 90% of plot area is harvested crop (i.e. corn), 10% is bare ground.
See Photo 22 in the Ground-Level Photographs section of Appendix B (page B-11)

WETLAND DETERMINATION DATA FORM – Midwest Region

SOIL

Sampling Point: **SP 4**

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

Depth	Matrix		Redox Features					
(inches)	Color (Moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 2.5/1	100	---	---	---	---	SIC	
12-24	2.5Y 2.5/1	85	10YR 4/6	5	C	M	CL	
			5Y 5/2	10	D	M		

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (Inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- X Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

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?**	**Yes** X **No** ___

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

Remarks: FSA Determination: hydrology signatures observed in 5 of the 7 years.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 30/580th Avenue interchange City/County: Story Sampling Date: November 15, 2021

Applicant/Owner: Iowa Department of Transportation State: Iowa Sampling Point: SP 5

Investigator(s): Marc Solberg, Veronica LaPietra Section, Township, Range: Section 16, T-83N, R-23W

Landform (hillslope, terrace, etc.): road ditch Local Relief (Concave, Convex, None): concave

Slope (%): <1% Lat: 42.008510 Long: -93.531487 Datum: NAD 83

Soil Map Unit Name: Okoboji silty clay loam, 0 to 1 percent slopes NWI Classification: non-wetland

Are climactic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: Climactic Conditions: region is in a moderate drought at the time of the site visit (Source: Iowa Drought Monitor, November 9, 2021). Sample point taken along the edge of the graded road ditch on the south side of US 30 (near the eastern limits of the project). Area to determined to be emergent wetland (Wetland 6) - wetland is situated within the road ditch and the adjacent crop field - wetland boundary delineation within the road ditch based on a change in elevation (vegetation and hydrology falls out beyond this boundary), wetland boundary delineation within the crop field based on FSA Determination.

VEGETATION – Use scientific name of plants.

Tree Stratum (Plot Size: 15-ft. x 15-ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot Size: 15-ft. x 15-ft.)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

Herb Stratum (Plot Size: 10-ft. x 10-ft.)			
1. tall scouring-rush (Equisetum hyemale)	85	Y	FACW
2. water smartweed (Persicaria amphibia)	5	N	OBL
3. common reed (Phragmites australis)	5	N	FACW
4. Canada thistle (Cirsium arvense)	5	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		

Woody Vine Stratum (Plot Size: 15-ft. x 15-ft.)			
1.			
2.			
	0 = Total Cover		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

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

Prevalence Index Worksheet:

Total % Cover of:	Multiply By:
OBL Species ____	x 1 = ____
FACW Species ____	x 2 = ____
FAC Species ____	x 3 = ____
FACU Species ____	x 4 = ____
UPL Species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
See Photo 31 in the Ground-Level Photographs section of Appendix B (page B-16)

WETLAND DETERMINATION DATA FORM – Midwest Region

SOIL

Sampling Point: **SP 5**

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

Depth	Matrix		Redox Features					
(inches)	Color (Moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	100	---	---	---	---	SIC	
8-13	10YR 2/1	55	2.5Y 5/2	35	D	M	CL	
			10YR 4/6	10	C	M		
13-24	2.5Y 2.5/1	75	5Y 5/2	15	D	M	CL	
			10YR 4/6	10	C	M		

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (Inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ 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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- X Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

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? **Yes** X **No** ___

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

Remarks: FSA Determination (adjacent field): hydrology signatures observed in 5 of the 7 years.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 30/580th Avenue interchange City/County: Story Sampling Date: November 15, 2021

Applicant/Owner: Iowa Department of Transportation State: Iowa Sampling Point: SP 6

Investigator(s): Marc Solberg, Veronica LaPietra Section, Township, Range: Section 9, T-83N, R-23W

Landform (hillslope, terrace, etc.): depression Local Relief (Concave, Convex, None): slightly concave

Slope (%): <1% Lat: 42.011965 Long: -93.527111 Datum: NAD 83

Soil Map Unit Name: Webster clay loam, Bemis moraine, 0 to 2 percent slopes NWI Classification: non-wetland

Are climactic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No ____	**Is the Sampled Area within a Wetland?**	**Yes X No ____**
Hydric Soil Present?	Yes X	No ____		
Wetland Hydrology Present?	Yes X	No ____		

Remarks: Climactic Conditions: region is in a moderate drought at the time of the site visit (Source: Iowa Drought Monitor, November 9, 2021).
Soils & Vegetation: disturbed by agriculture (sample point taken within a row-crop agricultural field).
Sample point taken to verify soils from FSA Determination - area determined to be emergent wetland (Wetland 7). Wetland boundary delineation based on FSA Determination.

VEGETATION – Use scientific name of plants.

Tree Stratum (Plot Size: 5-ft. radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot Size: 5-ft. radius)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot Size: 5-ft. radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	= Total Cover		

Woody Vine Stratum (Plot Size: 5-ft. radius)			
1.			
2.			
	= Total Cover		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply By:	
OBL Species	x 1 =	
FACW Species	x 2 =	
FAC Species	x 3 =	
FACU Species	x 4 =	
UPL Species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Approximately 90% of plot area is harvested crop (i.e. corn), 10% is bare ground.
See Photo 35 in the Ground-Level Photographs section of Appendix B (page B-18)

WETLAND DETERMINATION DATA FORM – Midwest Region

SOIL

Sampling Point: **SP 6**

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

Depth	Matrix		Redox Features					
(inches)	Color (Moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 2.5/1	100	---	---	---	---	CL	
12-18	2.5Y 2.5/1	90	10YR 4/6	5	C	M	CL	
			2.5Y 4/2	5	D	M		
18-24	5Y 5/2	85	10YR 4/6	15	C	M	SICL	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (Inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ 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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- X Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

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? **Yes** X **No** ___

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

Remarks: FSA Determination: hydrology signatures observed in 5 of the 7 years.

WATERS OF THE UNITED STATES DETERMINATION DATA FORM
(USACE - ROCK ISLAND DIST. – REGULATORY BRANCH METHOD)

Project Site: US 30/580th Avenue interchange project
Applicant/Owner: Iowa Department of Transportation
Investigator(s): Marc Solberg

Date: November 16, 2021
County: Story
State: Iowa
PLSS: Sec. 9, 10 Twp. 83N Range: 23W
UTM Coordinates: 4,651,318.5 456,827.5 Zone 15N

Details of Stream Crossing:

Will this crossing use a bridge?	☒ Yes	☐ No
Will this crossing use a culvert?	☐ Yes	☒ No
Type/Dimensions:		
Is this watercourse named?	☐ Yes	☒ No
Name(s):		
Are wetlands associated with this crossing?	☐ Yes	☒ No

Station ID: 10006+70
Parcel No(s).:
Design No.:
Drainage Area: unknown square miles
Size of Impact: 46 feet

Physical Characteristics of the Ordinary High Water Mark* (satisfied by **2 or more**, check all applicable)

☒ Defined Bed And Bank	☐ Presence Of Litter/Debris	☐ Shelving
☒ Clear, Natural Line Impressed On Bank	☐ Presence of Wrack Line(s)	☐ Scour
☒ Sediment Sorting	☐ Vegetation Matted Down, Bent, Or Absent	☐ Deposition
☐ Changes In Character Of Soil	☐ Leaf Litter Disturbed Or Washed Away	☐ Water Staining
☐ Destruction of Terrestrial Vegetation	☐ Multiple Observed Flow Events	
☐ Abrupt Change In Plant Community	☐ Predicted Flow Events	

Is The Stream A Waters Of The U.S.? ☒ **Yes** ☐ **No**

Remarks: Existing 590th Avenue bridge will be used as constructed. Impacts to the drainage will result from the installation of drainage culverts on both sides of 590th Avenue.

Hydrologic Data

Flow Regime:
☒ Perennial Flow
☐ Intermittent Flow
☐ Ephemeral Flow

Data Sources:
Direct Observation:
☐ Gaging Station
☐ Other:

Indirect Knowledge:
☒ USGS Mapping: Perennial
☐ USDA Mapping:
☐ Other:

Site Sketch/Ground-Level Photographs

Typical Channel Cross-Section
Facing northwest

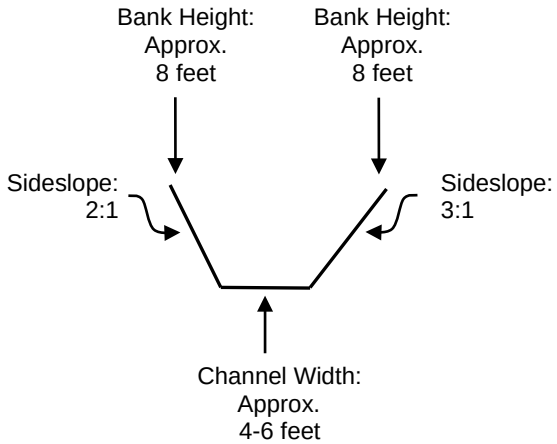


Photo 1. Unnamed drainage on the west side of 590th Avenue, looking northwest.

*** 33 CFR 3.28.3(e) and U.S. Army Corps of Engineers RGL No. 05-05**

GROUND-LEVEL PHOTOGRAPHS

Photo 1. Ground-level view showing the project area near the southern limits of relocated 580th Avenue (south of US 30), taken from the edge of existing 580th Avenue, looking north (November 15, 2021).

Photo 2. Ground-level view showing the centerline of relocated 580th Avenue north of US 30, taken from the southern edge of the crop field, looking north (November 15, 2021).

Photo 3. Ground-level view showing the project area near the northern limits of relocated 580th Avenue (north of US 30), taken from a field entrance located along the eastern side of 580th Avenue, looking south (November 15, 2021).

Photo 4. Ground-level view showing the project area north of US 30 where Ramp A and Loop Ramp C will be constructed, taken from the southern edge of the crop field, looking north (November 15, 2021).

Photo 5. Ground-level view showing the project area north of US 30 where relocated 580th Avenue, Ramp A, and Loop Ramp C will be constructed, taken from the edge of existing 580th Avenue, looking east (November 15, 2021).

Photo 6. Ground-level view showing the project area south of US 30 where Ramp B will be constructed, taken from the edge of existing 580th Avenue, looking northwest (November 15, 2021).

Photo 7. Ground-level view showing the project area south of US 30 where Ramp D will be constructed, taken from the edge of existing 580th Avenue, looking northeast (November 15, 2021).

Photo 8. Ground-level view showing the project area where the proposed north frontage road will be constructed, taken from the edge of the existing frontage road near the launch point of the new road (western project limits), looking northeast (November 15, 2021).

Photo 9. Ground-level view showing the project area where the proposed north frontage road will be constructed, taken from approximately Station 6030+00, looking east (November 15, 2021).

Photo 10. Ground-level view showing the project area where the proposed north frontage road will be constructed, taken from the future intersection of the north frontage road and 590th Avenue, looking west (November 15, 2021).

Photo 11. Ground-level view showing the project area where the proposed 241st Street will be constructed, taken from the edge of existing 580th Avenue, looking northwest (November 15, 2021).

Photo 12. Ground-level view showing the crop field in the vicinity of Sample Point 1, looking south (April 21, 2022).

Photo 13. Ground-level view of Sample Point 1, looking north. SP 1 was taken within a crop field on the south side of US 30 (west of existing 580th Avenue); this area was determined to be non-wetland based on field observations (November 15, 2021).

Photo 14. Ground-level view of Sample Point 2, looking northeast. SP 2 was taken within the road ditch in the northeast quadrant of the existing US 30/580th Avenue intersection; this area was determined to be non-wetland (November 15, 2021).

Photo 15. Ground-level view of Wetland 1, taken from the southwestern edge of the wetland, looking northeast. This area was determined to be wetland using FSA methodology (November 15, 2021).

Photo 16. Ground-level view of Wetland 1, taken from the northern edge of the wetland, looking south (April 21, 2022).

Photo 17. Ground-level view of Wetland 1, taken from the eastern edge of the wetland, looking west (April 21, 2022).

Photo 18. Ground-level view of Sample Point 3, looking north. SP 3 was taken within a crop field on the east side of 580th Avenue; this area was determined to be wetland (Wetland 1) using FSA methodology (November 15, 2021).

Photo 19. Ground-level view of Wetland 2, taken from the southern edge of the wetland, looking north. This area was determined to be wetland using FSA methodology (April 21, 2022).

Photo 20. Ground-level view of Wetland 3 taken from a point located in the center of the wetland and along the proposed (southern) right of way boundary, looking north. This area was determined to be wetland using FSA methodology (November 15, 2021).

Photo 21. Ground-level view of Wetland 3, taken from a point located near the western edge of the wetland and along the proposed (southern) right of way boundary, looking northeast (April 21, 2022).

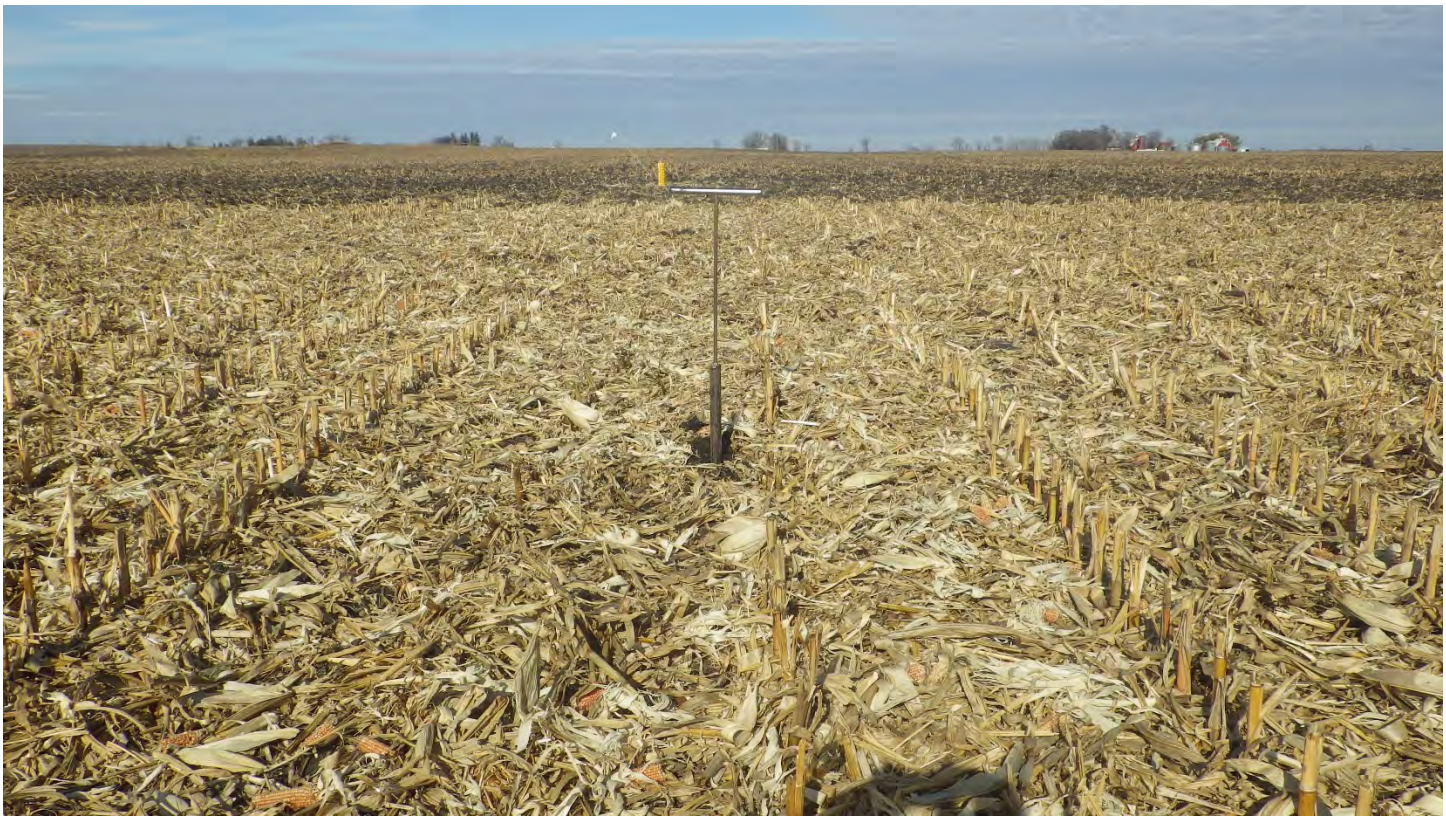


Photo 22. Ground-level view of Sample Point 4, looking north. SP 4 was taken within a crop field on the north side of US 30; this area was determined to be wetland (Wetland 3) using FSA methodology (November 15, 2021).

Photo 23. Ground-level view of Wetland 4, taken from the southern edge of the wetland, looking north. This area was determined to be wetland using FSA methodology (April 21, 2022).

Photo 24. Ground-level view of Wetland 4, taken from the southwestern corner of the wetland, looking northeast (April 21, 2022).

Photo 25. Ground-level view of Wetland 5, taken from the northwestern corner of the wetland, looking east. Wetland 5 is an emergent wetland that is situated within the US 30 road ditch (south side of roadway) and the adjacent crop field (April 21, 2022).

Photo 26. Ground-level view of Wetland 5, taken from the western edge of the wetland, looking east. Wetland 5 is an emergent wetland that is situated within the US 30 road ditch (south side of roadway) and the adjacent crop field; this area was determined to be wetland using FSA methodology (April 21, 2022).

Photo 27. Ground-level view of Wetland 5, taken from an existing field entrance, looking southwest. Wetland 5 is an emergent wetland that is situated within the US 30 road ditch (south side of roadway) and the adjacent crop field; this area was determined to be wetland using FSA methodology (April 21, 2022).

Photo 28. Ground-level view of Wetland 5, taken from an existing field entrance, looking southeast. Wetland 5 is an emergent wetland that is situated within the US 30 road ditch (south side of roadway) and the adjacent crop field; this area was determined to be wetland using FSA methodology (April 21, 2022).

Photo 29. Ground-level view of Wetland 5, taken from the northeastern corner of the wetland, looking west. Wetland 5 is an emergent wetland that is situated within the US 30 road ditch (south side of roadway) and the adjacent crop field (April 21, 2022).

Photo 30. Ground-level view of Wetland 5, taken from the eastern edge of the wetland, looking west. Wetland 5 is an emergent wetland that is situated within the US 30 road ditch (south side of roadway) and the adjacent crop field; this area was determined to be wetland using FSA methodology (April 21, 2022).

Photo 31. Ground-level view of Sample Point 5, looking east. SP 5 was taken within the road ditch on the south side of US 30; this area was determined to be emergent wetland (Wetland 5) using the routine method and FSA methodology. Wetland 5 is situated within the road ditch and then extends to the south into the adjacent crop field (November 15, 2021).

Photo 32. Ground-level view of Wetland 6, taken from a point located in the center of the wetland and along the proposed (southern) right of way boundary, looking north. This area was determined to be wetland using FSA methodology (November 15, 2021).

Photo 33. Ground-level view of Wetland 6, taken from a point located near the western edge of the wetland and along the proposed (northern) right of way boundary, looking east (November 15, 2021).

Photo 34. Ground-level view of Wetland 6, taken from a point located near the western edge of the wetland and along the proposed (southern) right of way boundary, looking northeast (April 21, 2022).

Photo 35. Ground-level view of Sample Point 6, looking north. SP 6 was taken within a crop field on the north side of US 30; this area was determined to be wetland (Wetland 6) using FSA methodology (November 15, 2021).

Photo 36. View of WUS 1 (unnamed drainage) upstream of 590th Avenue, taken from the existing 590th Avenue bridge, looking northwest (November 16, 2021).

Photo 37. View of WUS 1 (unnamed drainage) downstream of 590th Avenue, taken from the existing 590th Avenue bridge, looking southeast (November 16, 2021).

Photo 38. Ground-level view of WUS 1, taken from the base of the northern streambank on the upstream (west) side of 590th Avenue, looking northwest (November 16, 2021).

Photo 39. Ground-level view of WUS 1 and the impact area on the upstream (west) side of 590th Avenue, taken from the northern streambank, looking south (November 16, 2021).