NEBRASKA
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DEPT. OF ENVIRONMENT AND ENERGY

Pete Ricketts, Governor

DRINKING WATER STATE REVOLVING LOAN FUND PROGRAM
FINDING OF NO SIGNIFICANT IMPACT

TO: All Interested Citizens, Government Agencies and Public Groups

In accordance with the Nebraska Drinking Water State Revolving Fund environmental review process, which is based on the National Environmental Policy Act, an environmental review has been performed on the proposed agency action below.

This information reviews the environmental impact likely from a project. This project is planned to be federally funded through your tax dollars; therefore, you are entitled to take part in its review. If you have concerns about the environmental impact of this project, please provide them at this time. The Nebraska Department of Environment and Energy (NDEE) encourages public input in this decision-making process.

PROJECT NAME: New Water Tower
City of South Sioux City, Nebraska
DWSRF PROJECT NUMBER: D311642
TOTAL LOAN AMOUNT: $5,553,600
U.S. ECONOMIC DEVELOPMENT ADMINSTRATION GRANT: $2,200,000

The city of South Sioux City has applied for funding for the above-referenced project through the Drinking Water State Revolving Fund (DWSRF) program jointly administered by the Nebraska Department of Health and Human Services (DHHS) and the NDEE. This project has South Sioux City ranked as a low priority and is included on the Planning List in the DWSRF State Fiscal Year 2020 Intended Use Plan. This project may be funded after October 1st, once the bypass date for Funding List projects has passed.

South Sioux City is located in northeastern Nebraska, at the intersection of State Highways 20 and 77. The community has a population of 13,353 according to the 2010 census. The public water system (PWS) consists of six active municipal wells that supply raw water to two treatment plants for the removal of iron and manganese, a seventh well that is offline, four 250,000 gallon water towers, and a distribution system. In addition, there is an interconnection with an adjacent PWS for supply to meet peak demands. In November 2018, a Feasibility Analysis was prepared to study the need for a water tower. This was done in conjunction with an application for a grant from the U.S. Economic Development Administration (EDA). It was recommended that a new 2.5 million gallon water tower be constructed, as the existing towers cannot meet the present 3 million gallon average day system demand, a recommended design standard. The additional capacity is being reasonably sized based upon expected future growth in the City.

The proposed project was reviewed by numerous federal and state agencies for environmental impacts. The vast majority of responses were positive in that they indicated the project would have no affect, effect, or posed no concern. A wetlands delineation of the proposed tower site was performed and a small section of the property, less than 0.03 acres, was classified as an isolated wetland. The U.S. Army Corps of Engineers has allowed the proposed project to proceed in accordance with the terms and conditions of Department of Army Nationwide Permit No. 39 established on January 6, 2017. The Nebraska Department of Transportation-Aeronautics Division raised a concern in that the use of a crane, needed for the construction of the water tower, has the potential of violating the Height Restriction Zoning of any public-use airports. An aeronautical study was completed and a determination of no hazard to air navigation was issued by the Federal Aviation Administration. Lastly, a National Pollutant Discharge Elimination System Construction Stormwater permit will be required by NDEE, as more than one acre will be disturbed on land owned by the City.

The City is eligible for a 30-year loan at an interest rate of 1.5 percent. In addition to principal and interest payments, an administrative fee of 0.5 percent of the loan balance will be assessed each year. The revenues from South Sioux City's water utility will be dedicated to repay the loan. With the EDA grant, the projected annual DWSRF Debt Service (including 10% coverage) is $171,476. South Sioux City's current water rate for a typical residential connection is $22.50 per month for a 5,000 gallon water use. Based on 4,276 active service connections, monthly household rates may only need to be raised $3.34 to address the new debt service, to just under $26 per month. During construction, if needed, the DWSRF will also provide interim funding on the EDA grant portion of the project, until that award is disbursed.

A Public Hearing was held June 9, 2014 on the need for a new water tower, with 40 days advanced posted notice. No comments were made by the City residents in attendance and no other input was received from the public. The City for the U.S. EDA grant award completed issued two public notices for the proposed project on November 29 and December 6, 2018, with no comments received from the public.

The City has a permit to operate a PWS under the provisions of the Nebraska Safe Drinking Water Act and the Regulations Governing Public Water Supply Systems, Title 179. The proposed project is determined by DHHS to help the public water system maintain compliance with the Safe Drinking Water Act. The system last underwent a routine sanitary survey by DHHS in September of 2016, wherein several deficiencies were noted, which were corrected by November of 2016. Also, their current Environmental Tracking Tool score is 0, well below the allowable 11 per issued U.S. Environmental Protection Agency guidance. That information satisfies the Technical, Financial, and Managerial program policy.

The proposed project is determined by DHHS to help the public water system maintain compliance with the Safe Drinking Water Act. No significant environmental impacts have been identified that would result from the proposed action. All necessary permits for construction will be obtained from the appropriate agencies (i.e., USACE, NDEE, etc.), if necessary. Consequently, a preliminary decision has been made that an Environmental Impact Statement will not be prepared.

This action is taken on the basis of a careful assessment of the environmental review, the feasibility analysis, and other supporting data that are on file with NDEE. The latter are available for public review upon request and the environmental assessment is attached. The NDEE will not take any administrative action on the project for at least 30 calendar days from the date shown below. Persons having a comment on this determination are encouraged to submit directly to Steve McNulty @ 402 471-1006 or email steve.mcnulty@nebraska.gov of DHHS, or John Danforth @ 402 471-3373 or email john.r.danforth@nebraska.gov of the Water Division of NDEE.

Signed this 29th day of August, 2019.

Sincerely,

Jim Macy
Director

Attachments: Environmental Review
Aeronautical Study
Distribution List
Map

FNSI DISTRIBUTION LIST
SOUTH SIOUX CITY, NEBRASKA

DEPARTMENT OF ENVIRONMENT AND ENERGY
Office of Public Affairs
P.O. Box 98922
Lincoln, NE 68509-8922

DEPARTMENT OF NATURAL RESOURCES
Mitch Paine
P.O. Box 94676
Lincoln, NE 68509-4676

NEBRASKA GAME & PARKS COMMISSION
Carey Grell
P.O. Box 30370
Lincoln, NE 68503-0370

DIRECTOR, NEBRASKA STATE
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P.O. Box 82554
Lincoln, NE 68508-2554

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Steve Charleston
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FISH AND WILDLIFE SERVICE
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9325 South Alda Road
Wood River, NE 68883

DEPARTMENT OF HEALTH AND HUMAN SERVICES
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Lincoln, NE 68508

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Chris Simmons/Kelley Beard-Tittone
11201 Renner Boulevard
Mail Code: WWPDWIMB
Lenexa KS 66219

ENVIRONMENTAL PROTECTION AGENCY
Joe Cothern
Federal Agency & NEPA Coordinator
901 North 5th Street
Kansas City, KS 66101

STATE CONSERVATIONIST
Natural Resources Conservation Service
Federal Building, Room 345
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Lincoln, NE 68508

APPLICANT:
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City of South Sioux City
1615 1st Avenue
South Sioux City, NE 68776-2245

CONSULTING ENGINEERS:
Olsson Associates
Rod Hanson, P.E.
1707 Dakota Avenue
South Sioux City, NE 68776

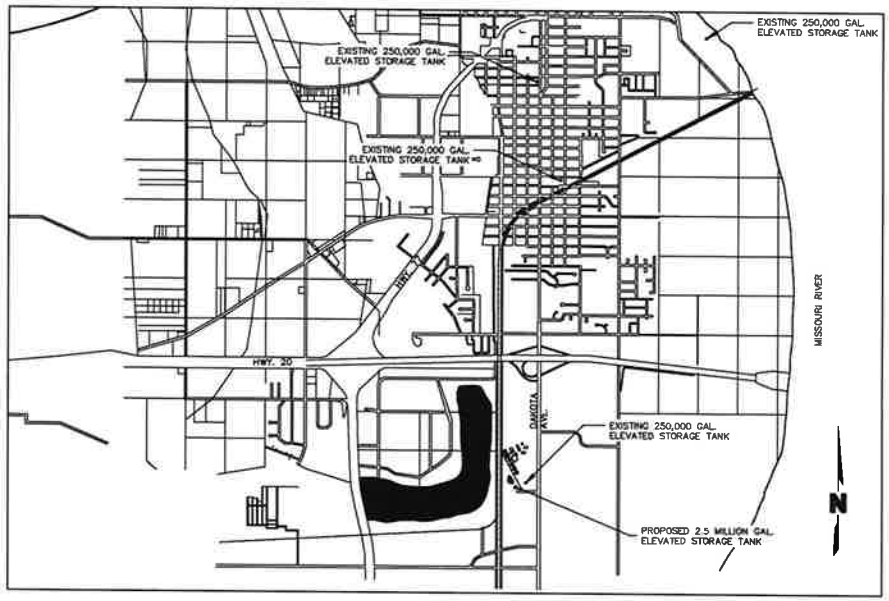
LOCAL NEWSPAPER
Dakota County Star
1000 West 29th Street, #212
South Sioux City, NE 68776

2.5 MILLION GALLON ELEVATED WATER STORAGE TANK
SOUTH SIOUX CITY, NEBRASKA
2019

LEGEND

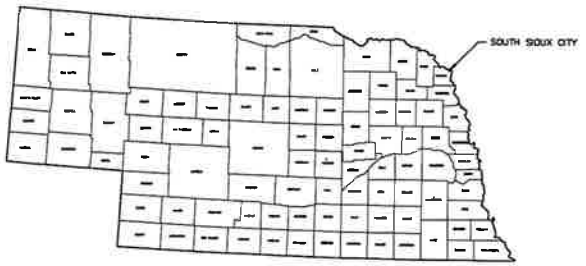
- CHECK VALVE
- BENCHMARK
- CURB STOP
- FIRE HYDRANT
- FIBER OPTIC BOX
- GRATE INLET
- LIGHT POLE
- BEEHIVE INLET
- POWER POLE
- STORM DRAIN MANHOLE
- SIGN
- SANITARY SEWER MANHOLE
- TELEPHONE RISER
- WATER MANHOLE
- WV WATER VALVE
- PLUG/CAP
- ACCESS ROAD

- BORDER
- CENTER
- CHAIN LINK FENCE
- COMM COMMUNICATIONS
- EASEMENT
- E ELECTRICAL LINE
- SF EROSION CONTROL FENCE
- FO FIBER OPTIC
- G GAS LINE
- LOC LIMITS OF CONSTRUCTION
- P-OH POWER OVERHEAD
- P-UG POWER UNDERGROUND
- PL PROPERTY LINE
- SS SANITARY SEWER
- SECTION LINE
- SF SILT FENCE
- SD STORM SEWER
- TW TELEPHONE LINE
- W WATER LINE



LOCATION MAP
SCALE 1"=1000'

Sheet List Table	
Sheet Number	Sheet Title
1	COVER
2	GENERAL NOTES
3	SITE PLAN
4	GRADING PLAN
5	WATER MAIN PLAN & PROFILE
6	STORM SEWER PLAN & PROFILE
7	EROSION CONTROL
8	ELEVATED WATER STORAGE TANK
9	DETAILS
10	DETAILS
11	ELECTRICAL PLANS
12	ELECTRICAL DETAILS
13	INSTRUMENTATION AND CONTROLS



BENCHMARKS

BM #1
DESCRIPTION: HYDRANT ARROW
ELEV.=1100.660
N: 988564.190
E: 2607989.533

BM #2
DESCRIPTION: NORTH BOLT OF TRANS POLE SW CORNER OF DAKOTA AND 52ND ST.
ELEV.=1104.12
N: 988517.405
E: 2607970.735

BM #3
DESCRIPTION: CHISELED X EAST SIDE OF TRANS POLE FOUNDATION CORNER POLE WEST OF DAKOTA AND 52ND ST.
ELEV.=1101.68
N: 988503.052
E: 2607970.735

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TEL: 402.494.3069
www.olsson.com

REV'D NO.	DATE	REVISIONS DESCRIPTION
NO.	DATE	REVISIONS

COVER

2.5 MILLION GALLON ELEVATED WATER STORAGE TANK - 05-01-05912 EDA

SOUTH SIOUX CITY, NE

2019

drawn by: SJK
checked by: AB
approved by: MS
DADC by: MS
project no.: 015-0781
drawing no.: C_COVER_70781
date: 07.03.19

SHEET 1 of 13

DWG: F:\2017\0501-1000\017-0781\40-Design\AutoCAD\Preliminary Plans\Sheets\DAC\VC_COVER_70781.dwg
DATE: Jul 22, 2019 16:00am XREFS: south sioux city C_PTBLK_70781
USER: bube

SOUTH SIOUX CITY WATER TOWER
ENVIRONMENTAL REVIEW
SOUTH SIOUX CITY, NEBRASKA

PREPARED FOR

The City of South Sioux City
Dakota County, Nebraska

PREPARED BY

Olsson Associates
2111 South 67th Street, Suite 200
Omaha, NE 68508

September 2018

Olsson Associates Project No. 017-0781

OLSSON ASSOCIATES®

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List of Acronyms and Abbreviations

AIR	Clean Air Act
BGEPA	Bald and Golden Eagle Protection Act
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FPPA	Farmland Protection Policy Act
IWM	Integrated Waste Management
LST	Leaking Storage Tanks
LWC	Livestock Waste Control
MBTA	Migratory Bird Treaty Act
MS4	Municipal Separate Storm Sewer System
NDEQ	Nebraska Department of Environmental Quality
NDNR	Nebraska Department of Natural Resources
NGPC	Nebraska Game and Parks Commission
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
NESCA	Nebraska Nongame and Endangered Species Conservation Act
NNHP	Nebraska Natural Heritage Program
PEMA	Palustrine Emergent Temporarily Flooded Wetland
PCS	NPDES Permits and Compliance
PRR	Petroleum Release Remedial Action
RA	Release Assessment
RCR	RCRA Permitted Site
RCRA	Resource Conservation and Recovery Act
SF	Superfund
SHPO	State Historic Preservation Office
TL3	SARA Title III
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOUS	Waters of the United States

1.0 INTRODUCTION

The South Sioux City Water Tower Project (Project) involves a proposed water tower for South Sioux City, Nebraska located in the Roth Industrial Park area (**Figure 1**). This portion of South Sioux City is a developing area of Dakota County and was part of a Tier 1 Environmental Assessment completed in 2011 for the expansion of industrial development in the Roth Industrial Park. This Project may have federal funding.

A review of environmental resources located within the Project Study Area was completed to form an understanding of environmental resources and potential impacts associated with construction of a future water tower within the Project Study Area.

1.1 Location

The Project is located in Section 4, Township 28 North, Range 9, East Dakota County, Nebraska or approximately 0.4 mile southeast of the intersection of Nebraska Highway 35 (N-35) and East 48th Street. The Project Study Area is approximately 1.4 acres in size and is surrounded by agricultural fields, a BNSF railway, and industrial sites. **Figure 1** shows the Project location.

2.0 HUMAN RESOURCES

2.1 Cultural Resources

Established by the United States Congress in 1966, the National Historic Preservation Act (NHPA), is intended to preserve historical and archaeological sites in the United States. The NHPA created the National Register of Historic Places (NRHP), the list of National Historic Landmarks, and the State Historic Preservation Offices (SHPO). Section 106 of the NHPA mandates federal agencies undergo a review process for all federally funded and permitted projects that will impact sites listed on, or eligible for listing on, the National Register of Historic Places. Specifically, it requires the federal agency to consider the effect a project may have on historic properties.

The potential future project would be a federal project if it utilized federal funding or required a federal permit (e.g., a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers (USACE)). As set forth at Section 101(b) (c) of the NHPA, the lead federal agency (e.g., USACE) must consult with the Nebraska SHPO, local governments, organizations, and individuals to ensure that historic properties are taken into consideration at all levels of planning and development.

A desktop file search conducted on the Nebraska State Historical Society website revealed no NRHP historical or cultural resources are present within the Study Area. If federal funds are utilized at a future point, the Project may require a survey for the presence of archaeological resources that may be present in undeveloped areas of the proposed Project.

2.2 Hazardous and Toxic Materials/Waste

The potential for this Project to impact hazardous material sites must be evaluated to identify potential risk of these sites on project delivery, cost, and schedule. The regulations that apply to the acquisition, investigation, and cleanup of sites containing hazardous materials are:

- Resource Conservation and Recovery Act (RCRA) (40 CFR 260–299).

- Comprehensive Environmental Response, Compensation, and Liability Act (42 USC 103, Sec. 9601 et seq.).
- Standards and Practices for All Appropriate Inquiries (40 CFR 312).

Hazardous material sites in the Project vicinity were identified through a Nebraska Department of Environmental Quality (NDEQ) database search on September 5, 2018. These sites could impact the project during construction and the acquisition of right-of-way, resulting in project delays and increased cost, particularly if they are not identified before construction. Sites identified in the records search were reviewed to determine potential risk to the Project, and ranked based on presenting a low, medium, or high-risk potential to future projects.

Based on this review, no sites were identified that pose a "medium" or "high" risk to future projects to the extent that future projects would possibly require modification (**Table 1**). Refer to **Figure 2** for site locations.

Table 1 – NDEQ and EPA Database Sites Identified within or adjacent the Study Area

Site Name (NDEQ Number)	Location	Program Type	Info
South Side (65544)	563 feet east and down-gradient	TL3	Site does not represent a risk – no release occurred
Ferrellgas (7408)	605 feet northeast and down-gradient	TL3	Site does not represent a risk – no release occurred.
Northern Natural Gas Company (58814)	699 feet northeast and down-gradient	AIR, LST, PCS, RCR, TL3	A release has been documented at the property. The site has a low potential to impact the Project due to the distance and down-gradient location.
Beef Products Inc (64267)	1,983 feet south and cross-gradient	AIR, PCS, RA, RCR, SF, TL3	A release has been documented at the property. The site has a low potential to impact the Project.
Tyson Fresh Meats Inc. (7339)	3,180 feet south-southeast and down-gradient	AIR, IWM, LST, LWC, PCS, PRR, RA, RCR, SF, TL3	A release has been documented at the property. The site has a low potential to impact the Project.

A records review was conducted for three identified sites with a potential to impact the Project. The objective of the records review was to examine available information regarding the extent of the known impacts to soil, groundwater, and surface water due to an existing or past release of hazardous substance or petroleum projects. The findings of the records review are provided below.

Beef Products Inc. (64267)

Beef Products Inc. is listed in the AIR, PCS, RA, RCR, SF, and TL3 databases. The site is located approximately 1,983 feet south of and cross-gradient from the Project. NDEQ records identified seven files for releases that occurred at the facility between 2000 and 2010. Released materials include diesel oil, hydraulic oil, and anhydrous ammonia. The releases occurred on the surface, were generally contained to the facility, and were remediated immediately. The SF listing is from an anhydrous ammonia release that occurred in 2003. Approximately 35,000 pounds of anhydrous ammonia was released into the containment pit below the storage tank. Due to the size of the release, the Environmental Protection Agency (EPA) investigated the release. The files for each release have been closed with no further action required. Based on the known extent of the releases, the regulatory status, and the distance and direction from the Project, the Beef Products Inc. facility has a low potential to impact the Project.

Tyson Fresh Meats Inc. (7339)

Tyson Fresh Meats Inc. is listed in the AIR, IWM, LST, LWC, PCS, PRR, RA, RCR, SF, and TL3 databases. The site is located approximately 3,180 feet south-southeast and topographically down-gradient from the Project. Multiple releases have been reported at the facility; soil and groundwater contamination has been documented at the facility. Documents regarding the SF listing were not readily available. Based on the distance and direction from the Project, the Tyson Fresh Meats Inc. facility has a low potential to impact the Project.

3.0 NATURAL ENVIORNMENTAL RESOURCES

3.1 Wetlands, Streams, and Surface Water

Under Sections 401 and 404 of the Clean Water Act (CWA; 40 CFR 104-149), Waters of the U.S. (WOUS), including wetlands, waterways, lakes, natural ponds, and impoundments, are regulated by the EPA and the USACE. These regulations require a permit to authorize the discharge of dredged or fill material into WOUS (33 U.S.C. 1344). The USACE Omaha District has jurisdiction over WOUS in Nebraska.

Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328). EO 11990, Protection of Wetlands, requires federal agencies to implement "no net loss" measures for wetlands. These no net loss measures include a phased approach to wetland impact avoidance, then minimization of impacts if wetlands cannot be avoided, and finally mitigation.

The NDEQ is responsible for administering CWA Section 401 Water Quality Certification for any project requiring a federal permit or license that includes a discharge into a Water of the State. This certification verifies that the applied-for project would not violate state of Nebraska water

quality standards. NDEQ also has responsibility for administering State Title 117 regulations (NDEQ 2009) for Waters of the State (not identified as WOUS).

A review of existing data and a wetland delineation were completed to evaluate if wetlands and waters exist in the Study Area and would be impacted by this Project.

3.1.1 National Wetlands Inventory and National Hydrography Dataset

According to the United States Fish and Wildlife Services (USFWS) National Wetland Inventory (NWI) Map and the United States Geological Survey (USGS) National Hydrology Dataset (NHD) Map (**Figure 3**), there are no wetlands or streams located within the Study Area.

3.1.2 NRCS Soils

According to the U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) soil survey for Dakota County, one soil type exists within the Study Area (**Figure 3**). The soil type was reviewed to determine if hydric soils exist within the Study Area. The NRCS definition of a hydric soil is a soil that is formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part. The presence of hydric soils is a good indicator that wetlands may be present unless those soils have been drained or otherwise hydrologically altered (Federal Register 1994).

The NRCS soil survey for Dakota County does not list any soils within the Study Area as having a 100 percent hydric rating (**Table 2**). However, the Haynie silt loam, 0 to 2 percent slopes, occasionally flooded has five percent hydric inclusions of Albaton when found on certain landforms within the Study Area.

Table 2 - NRCS Web Soil Survey

Map Unit Number	Map Unit Name	Hydric Rating[1]
7741	Haynie silt loam, 0 to 2 percent slopes, occasionally flooded	5

[1] Hydric Rating indicates the percentage of map units that meets the criteria for hydric soils.

3.1.3 Wetland Delineation

Olsson staff visited the Study Area on May 10, 2018 to complete the wetland delineation. The wetland delineation followed methodology described in the *U.S. Army Corps of Engineers Wetland Delineation Manual* (1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (Version 2.0) (August 2010). All conditions described represent conditions at the time of the field investigation. **Table 3** provides information on wetlands and waters delineated in the Study Area.

Table 3 - Wetlands Identified in the Study Area

Wetland ID	Cowardin Classification	Size
Wetland 1	PEMA	0.03 acre

Wetland 1 is classified as a Palustrine Emergent Temporarily Flooded (PEMA) wetland. The total area of wetland is approximately 0.03 acre within the Study Area. No waters were identified within the Study Area. For further details on the wetland delineation refer to Appendix B for the full delineation report.

Impacts to jurisdictional wetlands and WOUS that equal less than 0.5 acre or less than 300 linear feet of stream impact would require a Nationwide Permit. Wetland and stream channel mitigation are not required for impacts less than 0.1 acre, less than 300 linear feet of stream channel impact, or less than 100 linear feet of stream channel loss. It is Olsson's opinion that this wetland located within the Study Area is isolated, but only the USACE can make this determination.

3.1.4 National Pollutant Discharge Elimination System

Section 402 of the CWA (40 CFR 122.26) established the National Pollutant Discharge Elimination System (NPDES) Stormwater Permit Program, which is responsible for the protection of surface water quality through the state by regulating point-source discharges of pollutants to surface watercourses. The EPA's NPDES program requires all construction activities that disturb more than 1 acre to receive a construction NPDES permit. CWA Section 402(p) addresses municipal and industrial (including construction) stormwater discharges. Regulations were adopted in 1990 at 40 CFR Part 122.26 to implement Section 402(p). The NDEQ is the responsible agency for issuing NPDES permits in Nebraska (NDEQ 2005).

The NPDES stormwater program requires municipal separate storm sewer systems (MS4s) in urbanized areas to obtain NPDES coverage and implement six minimum control measures. An urbanized area is defined as a central place or places and the adjacent densely settled surrounding area that together have a residential population of at least 50,000 people and an overall population density of at least 500 people per square mile. The six minimum control measures include: Public Education and Outreach Public, Participation/Involvement, Illicit Discharge Detection and Elimination, Construction Site Runoff Control, Post-Construction Runoff Control, and Pollution Prevention/Good Housekeeping. The City of South Sioux City participates in the MS4 program.

3.2 Threatened and Endangered Species

The Endangered Species Act (ESA) (16 U.S.C. 1531 to 1544) protects threatened and endangered species and their habitats by prohibiting the "take" of listed animals. The ESA make it unlawful for a person to take a listed animal without a permit. A "take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." Harm has further been defined as "an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering." The Bald and Golden Eagle Protection Act (BGEPA) of 1940 (16 U.S.C. 668-668d, 54 Stat. 250), as amended, provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. The Migratory Bird Treaty Act (MBTA) of 1918 implements various treaties and conventions between the U.S., Canada, Japan, Mexico, and

Russia for the protection of migratory birds (16 U.S.C. 703-712). Fish and Wildlife Coordination Act, as amended (16 U.S.C. 2901-2911), initially enacted in 1934, protects fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. The Act provides the basic authority for the involvement of the USFWS in evaluating impacts to fish and wildlife from proposed water resource development projects.

Under the ESA, the BGEPA, MBTA, and Fish and Wildlife Coordination Act, the USFWS has the responsibility and authority for conservation and management of fish and wildlife resources.

The Nebraska Nongame and Endangered Species Conservation Act (NESCA) prohibits the take, exportation, and possession of Nebraska state-level threatened and endangered species and imposes severe penalties on violators. The intent of the act is to conserve species of wildlife for human enjoyment, for scientific purposes, and to insure their perpetuation as viable components of their ecosystems. Any project with potential to impact a state threatened and endangered species requires coordination with the Nebraska Game and Parks Commission (NGPC). **Table 4** shows the threatened and endangered species listed for Dakota County, Nebraska. The information was collected from the NGPC and USFWS websites.

Table 4 - Threatened and Endangered Species in Dakota County, Nebraska

Common Name	Scientific Name	State Status	Federal Status	Suitable Habitat present?
Piping plover	*Charadrius melodus*	--	Threatened	No
River otter	*Lontra canadensis*	Threatened	Not Listed	No
Northern long-eared bat	*Myotis septentrionalis*	Threatened	Threatened	No
Pallid sturgeon	*Scaphirhynchus albus*	Endangered	Endangered	No
Lake sturgeon	*Acipenser fulvescens*	Threatened	Not Listed	No
Sturgeon chub	*Macrhybopsis gelida*	Endangered	Not Listed	No
American ginseng	*Panax quinquefolium*	Threatened	Not Listed	No
Western prairie fringed orchid	*Platanthera praeclara*	--	Threatened	No

The American ginseng, river otter, piping plover, pallid sturgeon, lake sturgeon, and sturgeon chub are only found along certain water bodies such as the Missouri, Platte, and Elkhorn River which are located well outside of the Study Area. The western prairie fringed orchid has the potential to occur within Dakota County; however, the estimated current range according to the Nebraska Natural Heritage Program (NNHP) website is located outside of Dakota County, and there is no suitable habitat (mesic to wet tallgrass prairies and wet meadows) within or adjacent to the Study Area. The northern long-eared bat is found during the summer months roosting underneath bark, in cavities or in crevices of both live trees and snags (dead trees). There are no trees located within the Study Area, therefore suitable habitat is not present.

Bald and Golden Eagle Protection Act

The BGEPA provides for the protection of the bald and golden eagle by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds. Golden eagles are present in Nebraska but are most common in western Nebraska. Bald eagles occur across Nebraska and are known to nest along the Platte and Missouri. Bald eagles are rarely found far from water as they utilize mature riparian timber near streams, lakes, and wetlands for nesting and roosting. Suitable habitat does not exist within the Study Area. A nesting survey would likely not be required.

Migratory Bird Treaty Act

Under the MBTA, construction activities in grasslands, wetlands, and woodland habitats, and those that occur on bridges or culverts that would otherwise result in the taking of migratory birds, eggs, young, and/or active nests should be avoided. Although the provisions of the MBTA are applicable year-round, most migratory bird nesting activity in Nebraska occurs during the period April 1 to July 15. However, some migratory birds are known to nest outside of the primary nesting season, including raptors which nest from approximately from February 15 to July 31. Due to no trees present within the Study Area a survey would not be required.

3.3 Floodplains

Floodplains are lands on either side of a stream that are inundated when the capacity of the stream channel is exceeded during a 100-year storm event. EO 11988, Floodplain Management (1977), was authorized to direct federal agencies to "provide leadership and take action to reduce the risk of flood loss, to minimize the impacts of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains." This EO was authorized to assist in furthering the National Environmental Policy Act of 1969, the National Flood Insurance Act of 1968 (amended), and the Flood Disaster Protection Act of 1973.

Floodplains are identified on Flood Insurance Rate Maps published by the Federal Management Agency (FEMA). Construction must comply with FEMA and Dakota County regulations. The Study Area is not located within a mapped FEMA floodplain (**Figure 5**). A floodplain permit would not be required.

3.4 Farmland

The Farmland Protection Policy Act (FPPA) was enacted in 1981 (Public Law [P.L.] 97-98) to minimize the unnecessary conversion of farmland to non-agricultural uses as a result of federal actions. In addition, FPPA seeks to assure that federal programs are administered in a manner that will be compatible with state and local policies and programs that have been developed to protect farmland. Compliance with FPPA would be required if the project utilized federal funds. The policy of the NRCS is to protect significant agricultural lands from conversions that are irreversible and result in the loss of an essential food and environmental resource. The NRCS has developed criteria for assessing the effects of federal actions on converting farmland to other uses, including a Farmland Conversion Impact Rating Form AD-1006 for most projects. These forms document a site-scoring evaluation process to assess potential agriculture impacts.

The NRCS soil survey for the Study Area was also reviewed to confirm the presence or absence of federally-defined prime and unique farmlands (NRCS 2011). Of the soil type

identified in the Study Area, the Haynie silt loam is classified as prime farmland. The current land use in the Study Area is not used for agriculture, therefore, the Project is not expected to adversely impact prime or unique farmlands, nor would it convert farmland into non-agricultural use.

4.0 AGENCY REVIEW

If the Project utilizes state or federal funding for construction of the water tower, coordination with multiple federal agencies would be required. The federal and state agencies to be contacted should include:

- Nebraska State Historic Preservation Office (NeSHPO)
- U.S. Fish and Wildlife Service (USFWS)
- Nebraska Game and Parks Commission (NGPC)
- U.S. Environmental Protection Agency, Region VII (USEPA)
- Nebraska Department of Environmental Quality (NDEQ)
- Nebraska Department of Natural Resources (NDNR)
- U.S. Army Corps of Engineers (USACE) – Omaha District
- Six federally recognized Tribes in Nebraska:
    1. Iowa Tribe of Kansas and Nebraska
    2. Omaha Tribe of Nebraska
    3. Ponca Tribe of Nebraska
    4. Sac & Fox Nation of Missouri (Kansas and Nebraska)
    5. Santee Sioux Nation
    6. Winnebago Tribe of Nebraska

5.0 REFERENCES

40 CFR 104-149. Clean Water Act.

40 CFR 122.26. Storm Water Discharges.

40 CFR 260-299. Resource Conservation and Recovery Act.

40 CFR 312. Standards and Practices for All Appropriate Inquiries.

16 U.S.C. 2901-2911. Fish and Wildlife Conservation.

16 U.S.C. 668-668d. Bald and Golden Eagle Protection Act.

16 U.S.C. 703-712. Migratory Bird Treaty Act.

16 U.S.C. 1531-1544. Endangered Species Act.

33 CFR 328. Definition of Waters of the United States.

33 U.S.C. 1344. Permits for Dredged or Fill Material.

42 U.S.C. 9601. Environmental Response, Compensation, and Liability Act.

Executive Order 11988. 1977. Floodplain Management, 42 FR 26951.1977.

Executive Order 11990. Protection of Wetlands. 42 FR26961, 3 CFR. 1977.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

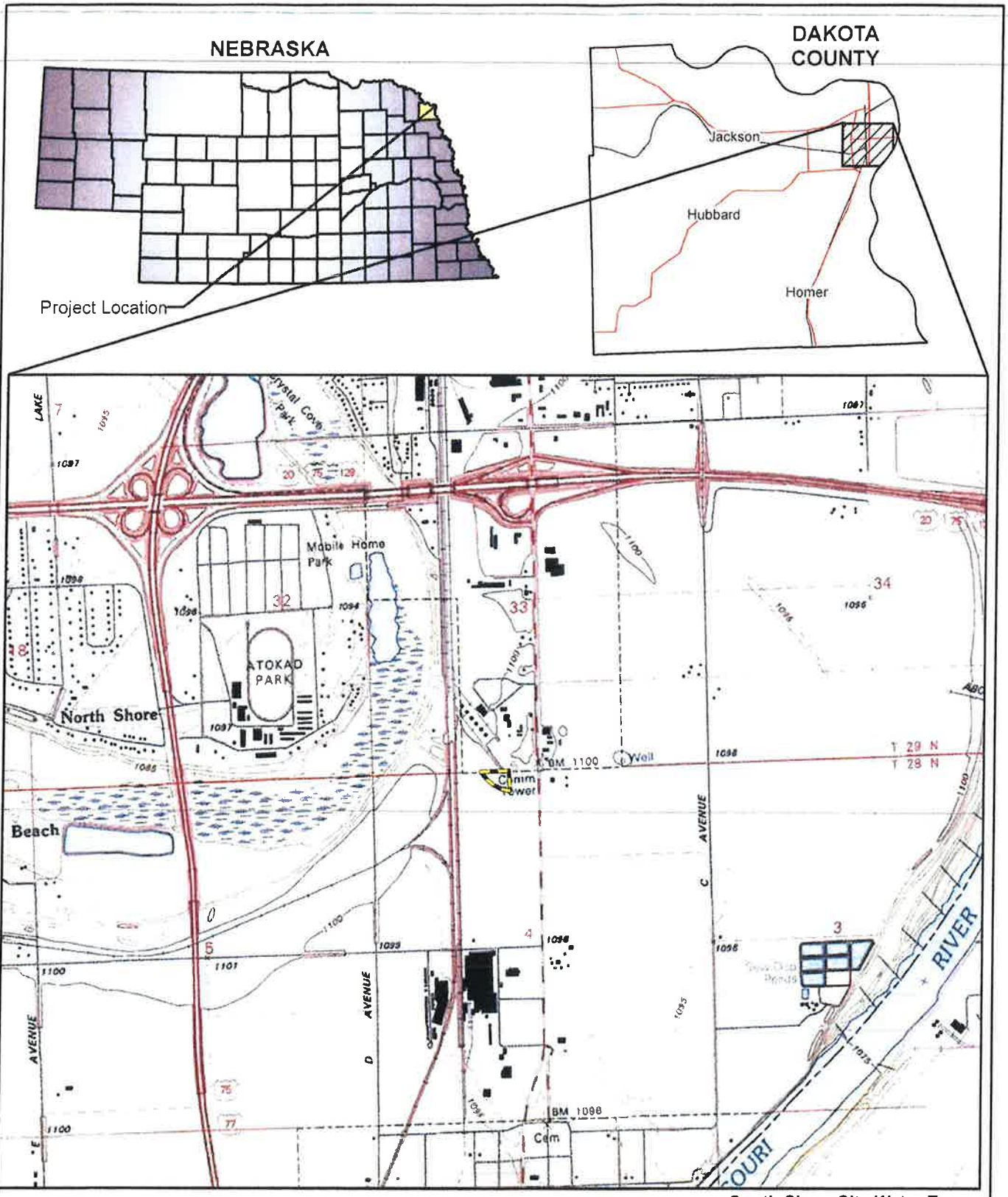
Nebraska Department of Environmental Quality (NDEQ). 2005. Rules and Regulations Pertaining to the Issuance of Permits under the National Pollutant Discharge Elimination System. Available at http://deq.ne.gov/NDEQProg.nsf/OnWeb/NPDES.

NRCS. 2011. Soil Data Mart Information for Dakota County, Nebraska. Website accessed February 28. http://soildatamart.nrcs.usda.gov/Report.aspx?Survey=NE153&UseState=NE

Public Law (P.L.) 97-98. Farmland Protection Policy Act of 1981.

United States Geologic Survey. 2011. Topographic Map for Dakota County, Nebraska.

APPENDIX A
FIGURES



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Data Source: ESRI - USA Topo Maps

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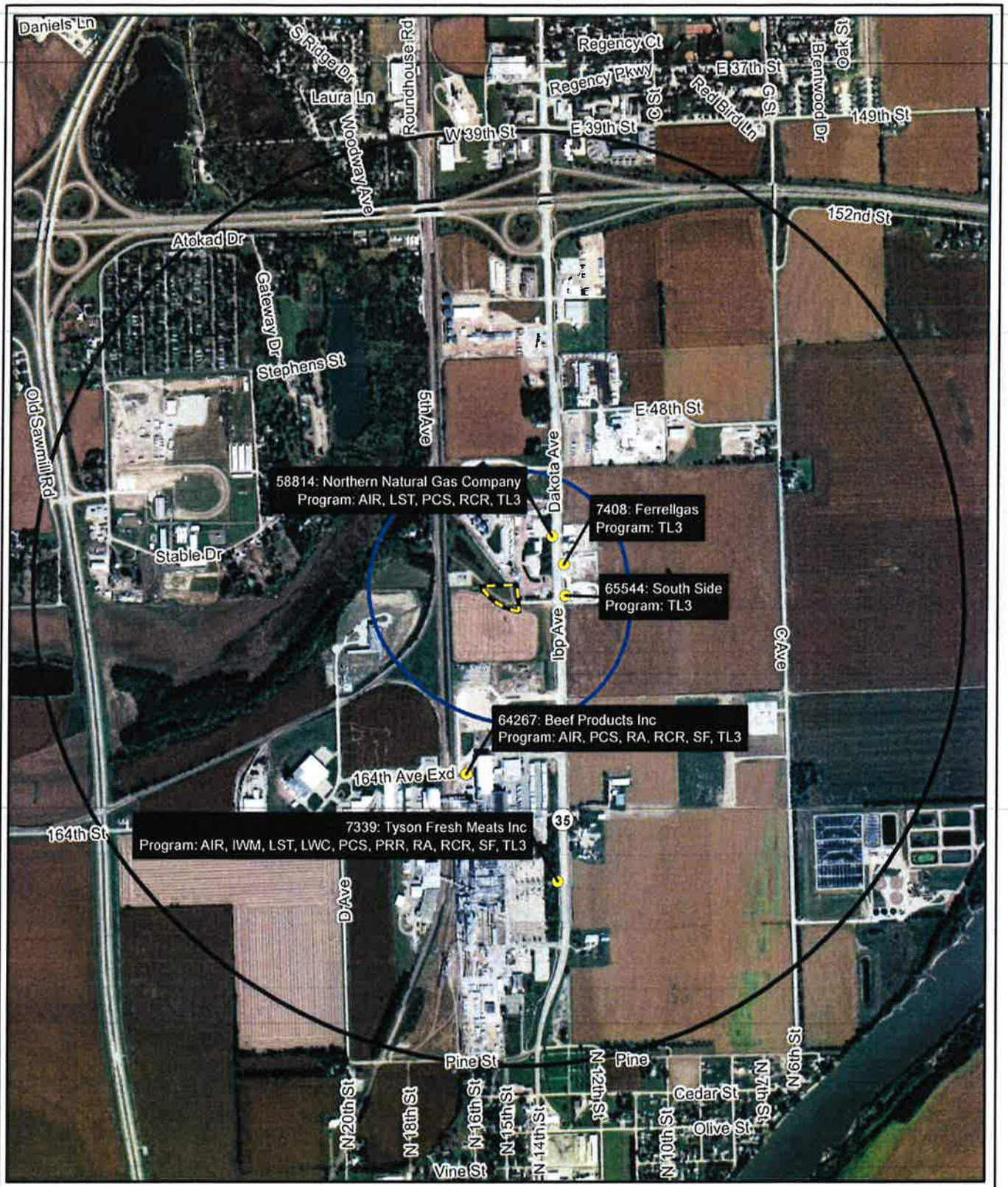
1 inch = 2,000 feet

OLSSON ASSOCIATES

Legend

Project Boundary

South Sioux City Water Tower
South Sioux City, Nebraska
Olsson Project # 017-0781
Location Map
Figure 1



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0 750 1,500

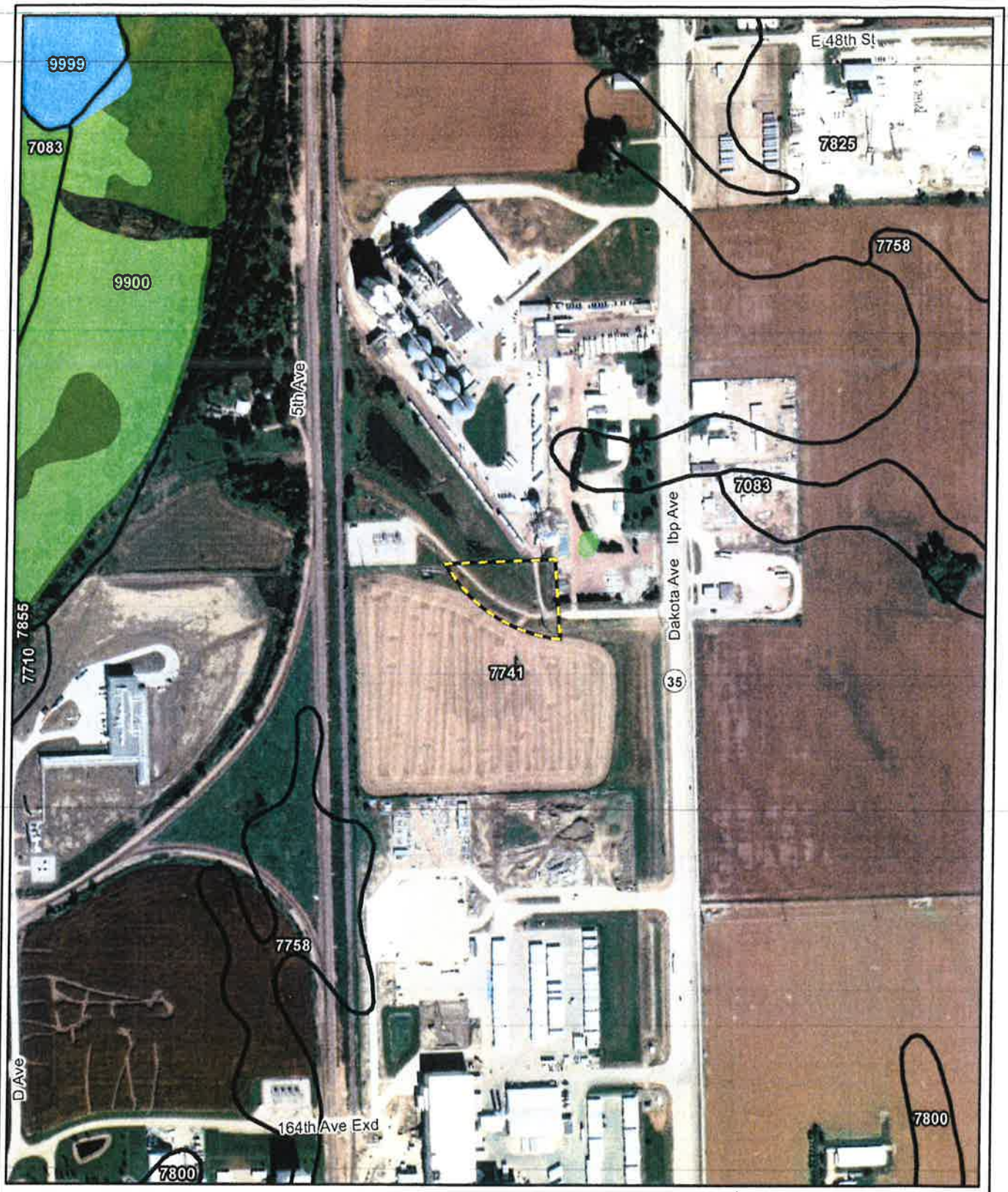
1 inch = 1,500 feet

OLSSON ASSOCIATES

Legend

- NDEQ Facility
- Project Boundary
- 1/4 Mile Search Radius
- 1 Mile Search Radius

South Sioux City Water Tower
South Sioux City, Nebraska
Olsson Project # 017-0781
NDEQ Facilities Site Map
Figure 2



Data Source: ESRI - World Imagery

N

0 250 500

1 inch = 500 feet

OLSSON ASSOCIATES

Legend

Project Boundary

SSURGO Soils

NHD Flowline

NWI Wetlands

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

South Sioux City Water Tower
South Sioux City, Nebraska
Olsson Project # 017-0781
NWI, NHD & SSURGO Soils Map
Figure 3

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Data Source: ESRI - World Imagery

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0 40 80

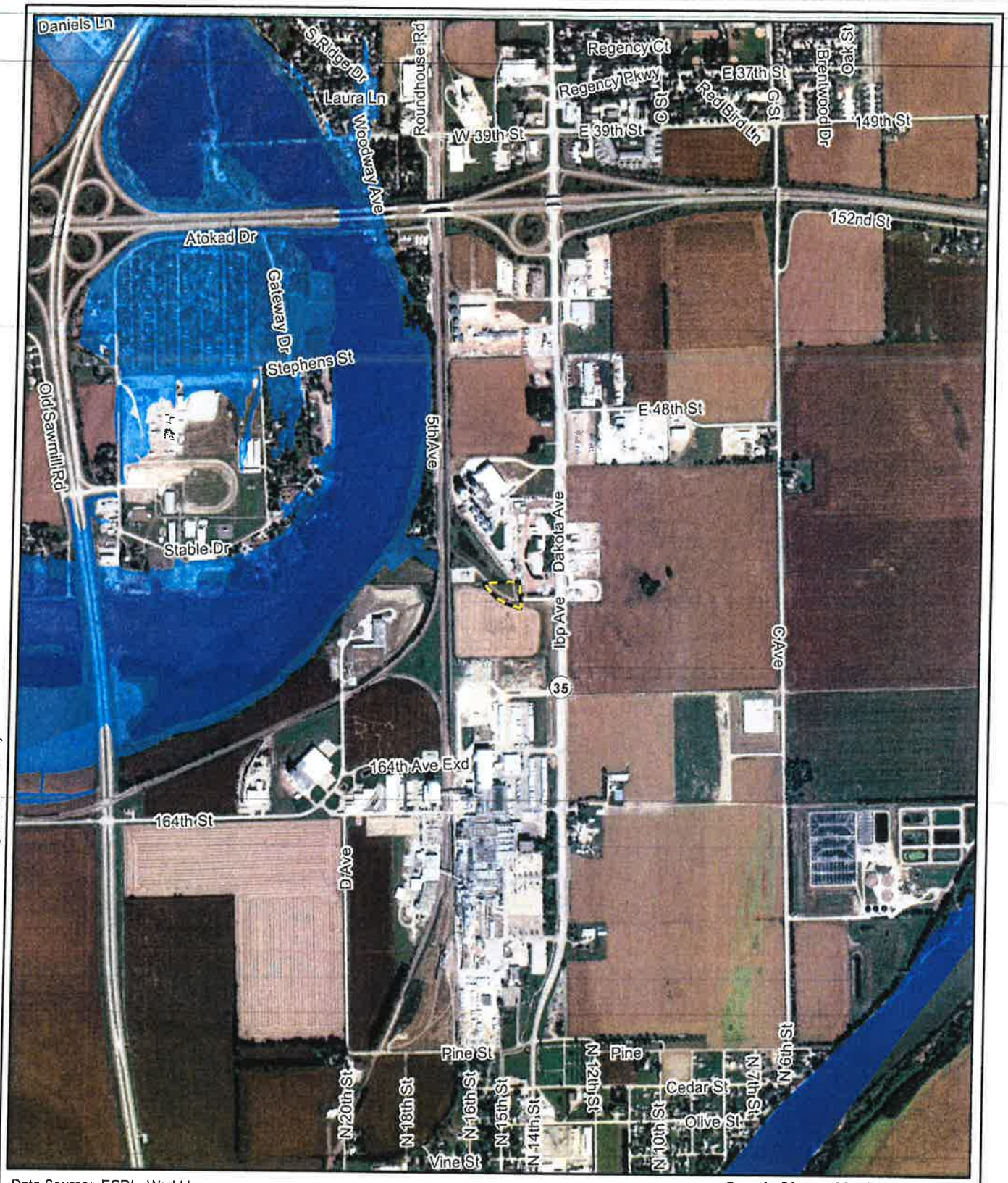
1 inch = 80 feet

OLSSON ASSOCIATES

Legend

- Sample Point
- Photo Point
- Wetland
- Project Boundary

South Sioux City Water Tower
South Sioux City, Nebraska
Olsson Project # 017-0781
Delineation Map
Figure 4



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Data Source: ESRI - World Imagery

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0 750 1,500

1 inch = 1,500 feet

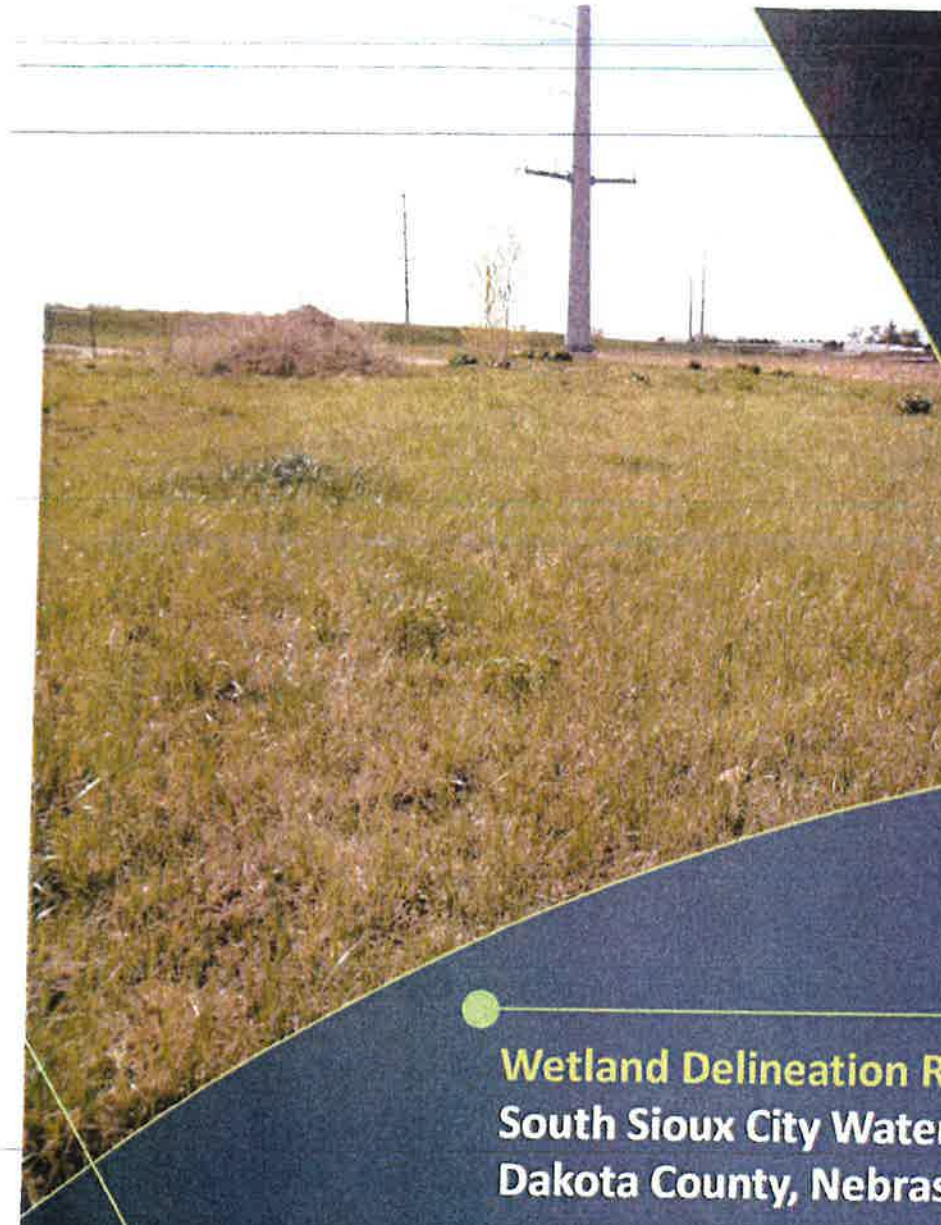
OLSSON ASSOCIATES

Legend

- Project Boundary
- 100-year Floodplain
- 500-year Floodplain

South Sioux City Water Tower
South Sioux City, Nebraska
Olsson Project # 017-0781
FEMA Floodplain Map
Figure 5

APPENDIX B
WETLAND DELINEATION REPORT



OLSSON ASSOCIATES

Wetland Delineation Report
South Sioux City Water Tower
Dakota County, Nebraska

Prepared for:

City of South Sioux City Nebraska
ATTN: Lance Hedquist
1615 First Avenue
South Sioux City, NE 68776

Prepared by:

Olsson Associates
2111 South 67th Street, Suite 200
Omaha, NE 68106

Acronyms and Abbreviations

NHD..... National Hydrography Dataset
NWI..... National Wetlands Inventory
Olsson ..... Olsson Associates
PEMA ..... Palustrine Emergent Temporarily Flooded
RPW ..... Relatively Permanent Waters
USGS ..... United States Geological Survey
WOTUS.....Waters of the United States

Table of Contents

Executive Summary

This report documents the findings of a wetland delineation for a proposed relocated water line and water storage tank for the South Sioux City water tower located in South Sioux City, Nebraska. This delineation report was prepared by Olsson Associates (Olsson) for the City of South Sioux City, Nebraska.

An Olsson biologist visited the site on May 10, 2018 to complete a field investigation. Based on a desktop review and field investigation, Olsson determined there is one wetland within the study area. The area of the wetland is approximately 0.03 acre.

This report is prepared for the use of City of South Sioux City, Nebraska for the specific application to the project discussed and has been prepared in accordance with generally accepted practices. In the event any changes in the nature of the study area or regulations as outlined in this report occur, the opinions in this report cannot be considered valid unless the changes are reviewed, and the opinions of this report are modified or verified by Olsson.

1. Introduction

This report documents the findings of a wetland delineation in South Sioux City, Dakota County, Nebraska (Figures 1 and 2, Appendix A). The City of South Sioux City, Nebraska contracted Olsson Associates (Olsson) to identify and delineate wetlands and waters within the proposed study area. This report provides a description of the study area, methods used, investigation results, and conclusions.

The study area consists of approximately one acre located in Section 4, Township 28 North, Range 9 East. The geometric center of the study area is located at latitude 42.436994 and longitude -96.416483. The water tower is located northeast of the study area and a detention basin located to the north (Figure 2, Appendix A).

2. Desktop Review

Olsson reviewed publicly available information to identify areas with the potential to exhibit wetland and other surface water characteristics. Data sources included: aerial photography, United States Geological Survey (USGS) topographic maps, National Wetlands Inventory (NWI) maps, National Hydrography Dataset (NHD) mapping, and the Dakota County Soil Survey. These resources are shown on Figure 1 and Figure 3 in Appendix A.

The USGS topographic map (Figure 1) indicates the relief is relatively flat across the study area with elevation at 1,100 feet. The NWI map did not depict any wetlands within the study area (Figure 3). The NHD map did not depict any channels within the study area (Figure 3). According to the soil survey for Dakota County, Haynie silt loam, 0 to 2 percent slopes, occasionally flooded has five percent hydric inclusions of Albaton.

3. Field Investigation Methods

Olsson staff visited the study area on May 10, 2018 to complete the wetland delineation. The wetland delineation followed methodology described in the *U.S. Army Corps of Engineers Wetland Delineation Manual* (1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (*Version 2.0*) (August 2010). All conditions described represent conditions at the time of the field investigation. USACE Wetland Determination Forms are included in Appendix B. Photographs were taken during the visit and are shown in Appendix C. Sample points locations, photo locations, and delineated wetlands are shown on Figure 4, Appendix A.

4. Results

Tables 1 summarizes the wetlands identified within the study area. There were no waters identified during the wetland delineation.

Table 1. Wetland Details

Wetland ID	Cowardin Classification	Sample Point	Photo Point	Figure	Size (Acres)
Wetland 1	PEMA	1	1	4	0.03 acre

Olsson staff identified one wetland within the study area. The wetland is classified as Palustrine Emergent Temporarily Flooded (PEMA). USACE Wetland Determination Forms are provided in Appendix B and a photo log is provided in Appendix C.

5. Discussion

The area appears to be maintained within an industrial area; therefore, some upland species were found within the wetland. Due to hydric soils and sufficient hydrology indicators the area was determined to be a wetland. The wetland appears to be isolated and does not connect to any relatively permanent waters (RPW).

6. References

7.5' digital topographic quadrangle, Lincoln, 1:24,000 (U.S. Geological Survey [USGS], 2014)

Cowardin, L. M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Dept. of the Interior, Fish and Wildlife Service, Washington, D.C.

Environmental Systems Research Institute (ESRI). (2012). ArcGIS Release 10.4. Redlands, CA.

National Hydrography Dataset (NHD) 1:24,000 (USGS, National Geospatial Program, 20170914, USGS National Hydrography Dataset (NHD) Best Resolution 20170914 for Nebraska State or Territory File GDB 10.1 Model Version 2.2.1: USGS);

National Wetlands Inventory (NWI) Version 2, (U. S. Fish and Wildlife Service. 2017. NWI website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. http://www.fws.gov/wetlands/);\

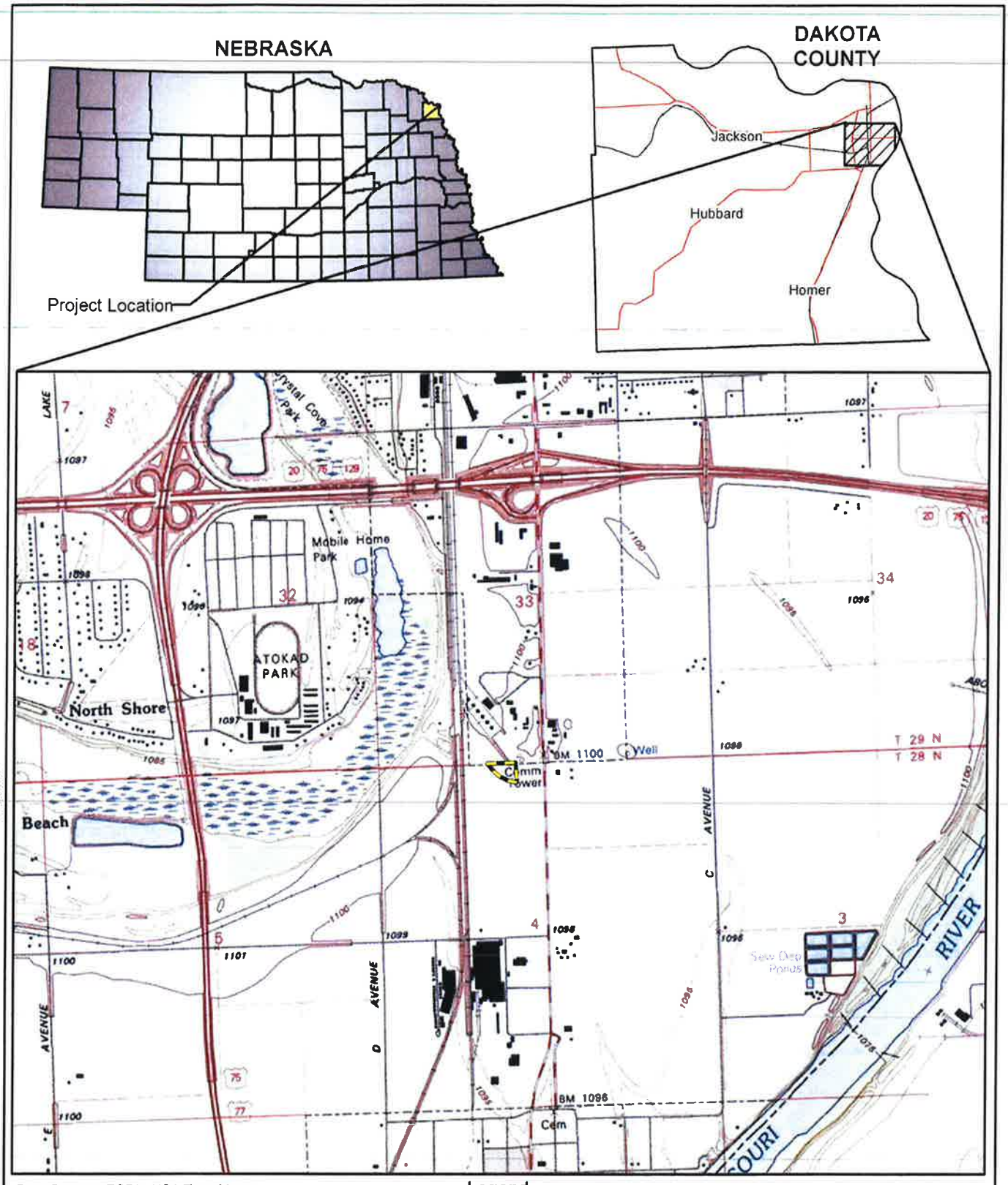
Soil Survey Geographic Database (SSURGO) Web Soils Survey. Custom Soil Resource Report for Dakota County, Nebraska (USDA Natural Resources Conservation Service [NRCS}, November 6, 2017);

USACE. 2010. Regional supplement to the Corps of Engineers wetland delineation manual: Midwest region (Version 2.0). U.S. Army Corps of Engineers, Omaha District. Omaha, Nebraska.

USACE. 1987. Corps of Engineers wetland delineation manual. U.S. Army Corps of Engineers, Wetlands Research Program. Washington, D. C.

Appendix A

Figures



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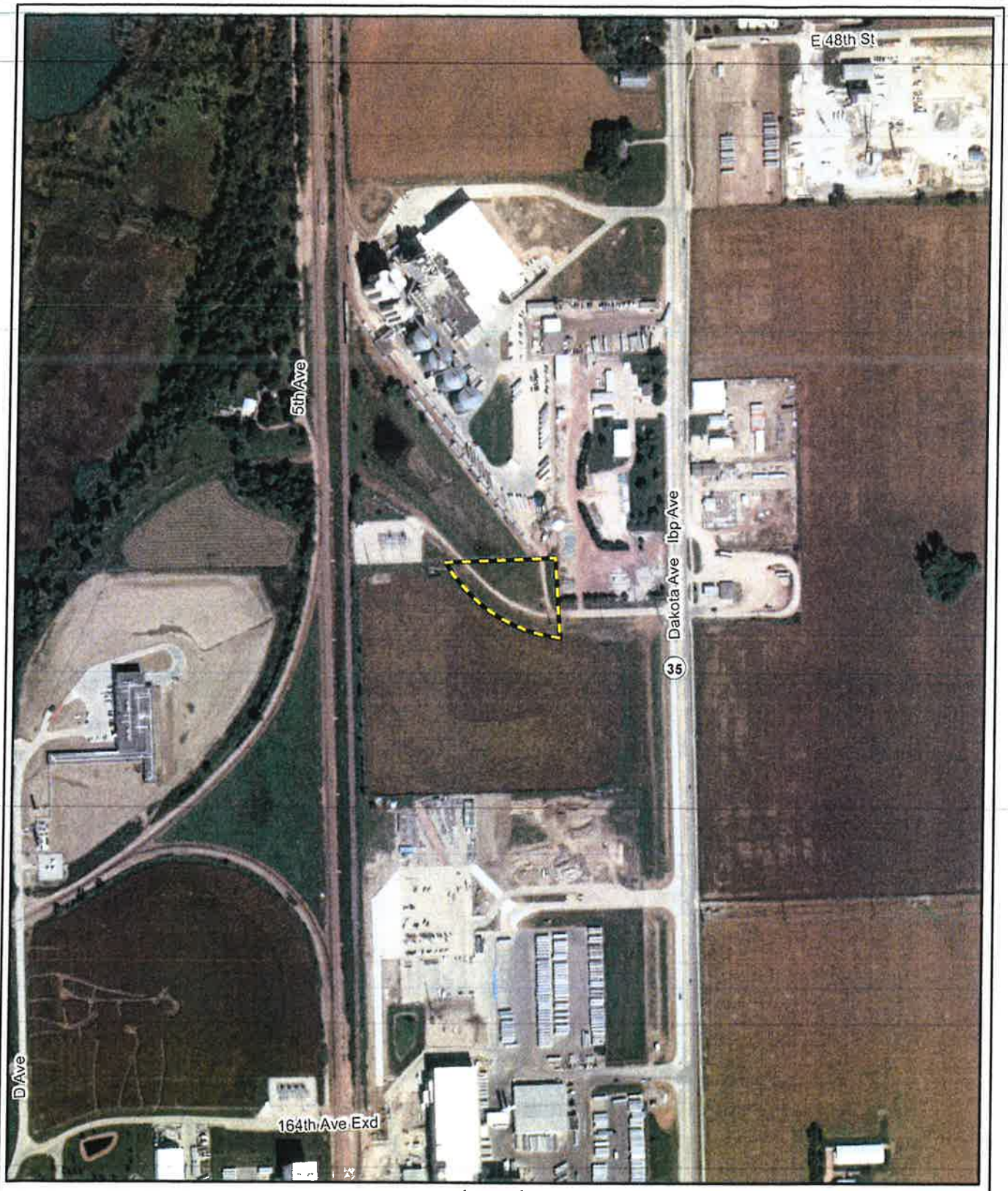
1 inch = 2,000 feet

OLSSON ASSOCIATES

Legend

Project Boundary

South Sioux City Water Tower
South Sioux City, Nebraska
Olsson Project # 017-0781
Location Map
Figure 1



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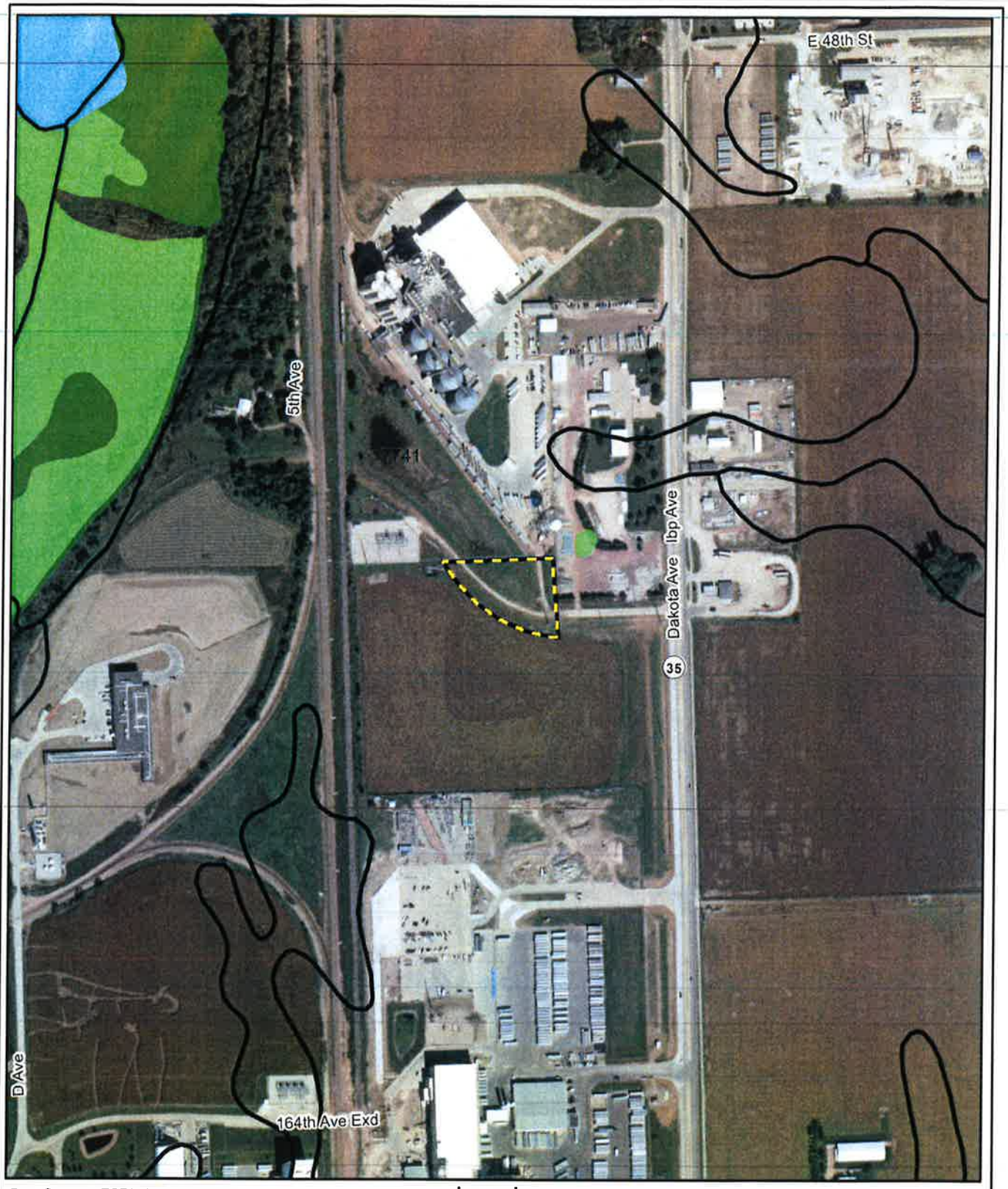
1 inch = 500 feet

OLSSON ASSOCIATES

Legend

Project Boundary

South Sioux City Water Tower
South Sioux City, Nebraska
Olsson Project # 017-0781
Site Map
Figure 2



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Data Source: ESRI - World Imagery

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0 250 500

1 inch = 500 feet

OLSSON ASSOCIATES

Legend

Project Boundary

SSURGO Soils

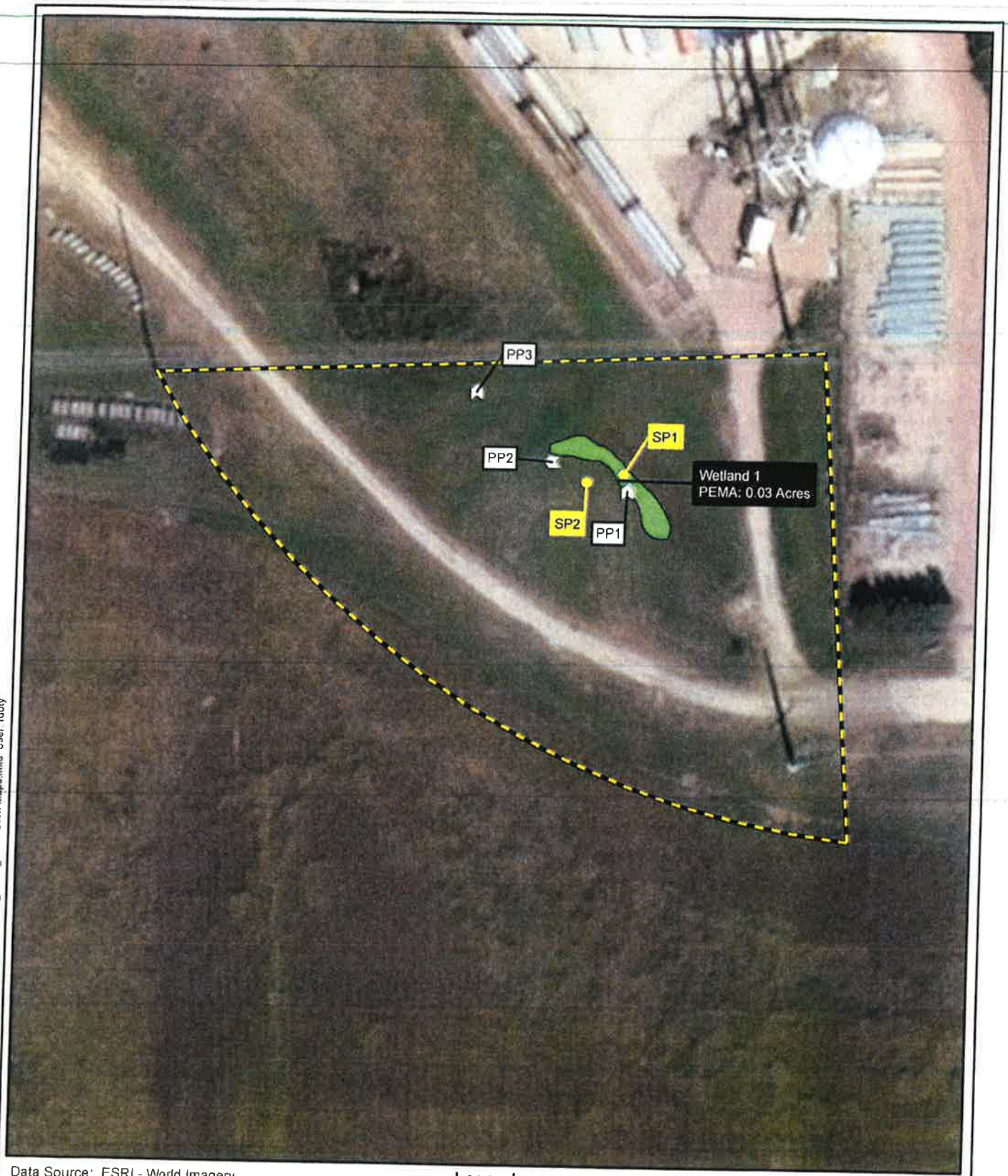
NWI Wetlands

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

South Sioux City Water Tower
South Sioux City, Nebraska
Olsson Project # 017-0781
NWI & SSURGO Soils Map
Figure 3



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Data Source: ESRI - World Imagery

N

0 40 80

1 inch = 80 feet

OLSSON ASSOCIATES

Legend

- Sample Point
- Photo Point
- Wetland
- Project Boundary

South Sioux City Water Tower
South Sioux City, Nebraska
Olsson Project # 017-0781
Delineation Map
Figure 4

Appendix B
Wetland Determination Data Forms

Wetland Determination Data Form - Midwest Region

Project/Site: SSC Tower | City/County: South Sioux City/ Dakc | Sampling Date: 5/10/2018

Applicant/Owner: City of South Sioux City Nebraska | State: NE | Sampling Point: 1

Investigator(s): M. Leonard and K. Davenport | Section, Township, Range: S4 T28N R9E

Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): Concave

Slope (%): 0-1 | Lat: 42.437028 | Long: 96.416336 | Datum: UTM83

Soil Map Unit Name: 7741: Haynie silt loam, 0 to 2 percent, occasionally flooded | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (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 ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Wetland 1 is a PEMA wetland in a depression.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. *Eleocharis palustris*	40	X	OBL
2. *Poa pratensis*	25	X	FAC
3. *Taraxacum officinale*	10		FACU
4. *Bromus inermis*	10		FACU
5.			
6.			
7.			
8.			
9.			
10.			
	85 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
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.)
PP 1

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR4/2	100					Sandy Clay Loam	
8-10	10YR4/2	99	10YR5/6	1	C	M	Sandy Clay Loam	
10-22	10YR4/2	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- X Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ Coast Prairie Redox (A16)
- __ Dark Surface (S7)
- __ Iron-Manganese Masses (F12)
- __ Very Shallow Dark Surface (TF12)
- __ 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)
- __ 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:

Wetland Determination Data Form - Midwest Region

Project/Site: SSC Tower | City/County: South Sioux City/ Dakc | Sampling Date: 5/10/2018

Applicant/Owner: City of South Sioux City Nebraska | State: NE | Sampling Point: 2

Investigator(s): M. Leonard and K. Davenport | Section, Township, Range: S4 T28N R9E

Landform (hillslope, terrace, etc.): Field | Local relief (concave, convex, none): None

Slope (%): 0 | Lat: 42.437003 | Long: 96.416444 | Datum: UTM83

Soil Map Unit Name: 7741: Haynie silt loam, 0 to 2 percent, occasionally flooded | NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (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 ____	No X	
Hydric Soil Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Outpoint for SP 1.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	40	X	FAC
2. *Schedonorus arundinaceus*	20	X	FACU
3. *Bromus inermis*	20	X	FACU
4. *Taraxacum officinale*	10		FACU
5. *Trifolium pratense*	10		FACU
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	= 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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (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 X

Remarks: (Include photo numbers here or on a separate sheet.)
PP 2 and PP 3

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-22	10YR4/2	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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)
- __ Dark Surface (S7)
- __ Iron-Manganese Masses (F12)
- __ Very Shallow Dark Surface (TF12)
- __ 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)
- __ 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:

Appendix C
Photographs

Project Name: South Sioux City Water Tower	
Photo: 1 **Direction:** North	 View north at Wetland 1 (PEMA)

Photo: 2 **Direction:** West	 View west of the upland area.

Project Name: South Sioux City Water Tower	
Photo: 3	
Direction: North	View north of detention pond located outside of study area.

Amy Cherko

From: Scott, Tricia <tricia.scott@nebraska.gov>
Sent: Tuesday, November 20, 2018 4:08 PM
To: Amy Cherko
Subject: South Sioux City Water Tower

20 November 2018

Olsson
ATTN: Ms. Amy Cherko

RE: South Sioux City Water Tower

Dear Ms. Cherko:

The Nebraska Department of Environmental Quality (NDEQ) has reviewed the above referenced project. As with any project, permits may be required prior to beginning construction or operation. At a minimum, you should be aware of the possible requirements or permits:

	Contact	Phone
Fugitive Dust Regulations	Mark Henning	(402) 471-0291
Construction Storm Water – General Permit	Ryan Joe	(402) 471-8330
Wastewater	Dan LeMaistre	(402) 471-4203
Water Quality Section 404 Permitting	Kim Copenhaver	(402) 471-2875
Waste Disposal	Erik Waiss	(402) 471-8308

Nebraska Title 129, Chapter 32 fugitive dust regulations shall apply to all demolition, grading, and construction activities.

The proposed project will require a Construction Stormwater Permit if construction activities will result in land disturbances of one or more acres.

Maintain all appropriate setback distances.

No Waste Permit required. All wastes generated or discovered on site must be properly handled, contained, and disposed as per all applicable regulations in Nebraska Titles 128 and 132.

If you have questions about the permitting process, or any other questions, feel free to contact me at (402) 471-4285, or the individual listed above. For more information, please visit our website at deq.ne.gov.

Sincerely,

Tricia Scott

History NEBRASKA

Preserving the past. Building the future.

Amy Cherko
Project Scientist
Olsson Associates
2111 South 67th Street, Suite 200
Omaha, Nebraska 68106

November 29, 2018

RE: HP# 1811-067-01; South Sioux City 2.5-Million-Gallon Water Tower Construction Project, Olsson Project# 017-0781, Sect. 4, T28N, R9E, Dakota County

Dear Ms. Cherko:

Thank you for submitting the information for the above referenced project for Nebraska State Historic Preservation Office (NeSHPO) review and comment under Section 106 of the National Historic Preservation Act of 1966, as amended in 2014 (Title 54 U.S.C. § 306108 [formerly 16 U.S.C. § 470f]), and its implementing regulations at 36 CFR§800.

According to the information provided along with a check of NeSHPO records, the ground disturbing activities associated with the proposed construction of a 2.5 million-gallon water storage tank south of the City of South Sioux City, Nebraska are unlikely to impact any prehistoric or historic cultural resources listed on the National Register of Historic Places or eligible for such a listing. Thus, a determination of *no historic properties affected* is appropriate for this undertaking and the project should continue as planned.

However, since the project area has not been directly evaluated by professional archeologists there is the possibility that currently buried or otherwise obscured cultural or human remains may be discovered during the undertaking. If any such discovery is made or if the project area becomes expanded in any way, please contact this office immediately for further instruction.

Be advised that this determination does not necessarily reflect the opinion of Native American Tribes that may have an interest in the area, nor does it to pertain to Traditional Cultural Properties, if they exist in the area.

Please submit this letter to the project's lead federal agency to fulfill the statutory obligation of Section 106 consultation with the Nebraska State Historic Preservation Office. Should you have any questions regarding this determination, please contact this office by phone (402-471-2609) or email (John.Rissetto@nebraska.gov).

Sincerely,

John Rissetto, Ph.D.
Preservation Archeologist

PLEASE NOTE ADDRESS CHANGE
1500 R Street
Lincoln, Nebraska
68508-1651
P: 402.471.4787
History.Nebraska.Gov

NEBRASKA
GAME PARKS

2200 N. 33rd St. • P.O. Box 30370 • Lincoln, NE 68503-0370 • Phone: 402-471-0641

November 15, 2018

Amy Cherko
2111 South 67th St. Suite 200
Omaha, NE 68106

Re: South Sioux City Water Tower, Dakota County, Nebraska

Dear Amy Cherko:

Please make reference to your letter dated November 5, 2018. This letter is in response to your request for a review of this project's potential impacts to endangered and threatened species in Dakota County, Nebraska. As we understand it, the project involves construction of a water tower. We have completed our review of the proposed project under Neb. Rev. Stat. § 37-807 (3) of the Nongame and Endangered Species Conservation Act and we offer the following comments.

The site is within the range of the state and federally listed endangered **Pallid Sturgeon** (*Scaphirhynchus albus*), the state and federally listed threatened **Northern Long-Eared Bat** (Myotis septentrionalis), the state-listed endangered **Sturgeon Chub** (*Macrhybopsis gelida*), and the state-listed threatened **River Otter** (Lontra canadensis) and **Lake Sturgeon** (Acipenser fulvescens). However, there are no records of state-listed species within the vicinity of the Site, nor does there appear to be habitat for state-listed species. Therefore, we have determined the proposed project will have **"No Effect"** on state-listed endangered or threatened species. We made this determination based on a review of the material you sent, aerial photographs, and our Nebraska Natural Heritage Database. If the proposed project is changed or new information regarding endangered or threatened species becomes available, then this determination is no longer valid and further consultation with the Nebraska Game and Parks Commission will be necessary.

All federally listed endangered or threatened species are also state-listed. For an assessment of potential impacts to habitats and species protected under federal wildlife laws, including federally listed, candidate or proposed endangered or threatened species, please contact Eliza Hines (eliza_hines@fws.gov), Nebraska Field Office, U.S. Fish and Wildlife Service, 9325 South Alda Road, Wood River, Nebraska 68883.

Thank you for the opportunity to comment. If you have any questions or need additional information, please feel free to contact me at (402) 471-5554 or michael.bernhardt@nebraska.gov.

Sincerely,

Michael Bernhardt
Environmental Analyst I
Planning and Programming Division

ec: USFWS (Eliza Hines)

FWS NE 2019-016

November 5, 2018

NOV -7 2018

Eliza Hines
USFWS Nebraska Field Supervisor
9325 S. Alda Road
Wood River, NE 68883

U.S. FISH AND WILDLIFE SERVICE
☑ NO CONCERNS
☐ CONCUR NOT LIKELY TO ADVERSELY AFFECT
☐ NO COMMENT
11/15/18
ELIZA HINES DATE
NEBRASKA FIELD SUPERVISOR

RE: South Sioux City Water Tower, Environmental Review
Dakota County, Nebraska
Olsson Project # 017-0781

Dear Ms. Hines:

Olsson was retained to complete an environmental review of the above-named project for the City of South Sioux City, Dakota County, Nebraska. The project site is located in the Roth Industrial Park area. The site is located in the southeast quarter of Section 4, Township 28 North, Range 9 East. More specifically, the site is located approximately 0.4 mile southeast of the intersection of Nebraska Highway 35 (N-35) and East 48th street. See Figure 1 (attached) for the project location.

The City of South Sioux City is proposing to construct a 2.5-million-gallon water storage tank in place of the existing Con Agra water storage tank. The proposed construction area is approximately 1.4 acres in size. The water storage tank would be constructed on land that already houses City water infrastructure components. This project may receive state or federal funding.

The project study area is surrounded by agricultural fields, a BNSF railway, and industrial development. The environmental review revealed no historical or cultural resources within the study area. No waterbodies were identified within the study area and less than 0.1 acre of wetlands were identified. The project has obtained a Section 404 Nationwide Permit 39 from the U.S. Army Corps of Engineers (permit number NWO-2018-01764-WEH) for impacts to wetlands. An environmental review did not identify suitable habitat to any threatened and endangered species in Dakota County.

We are requesting input from your agency regarding potential environmental concerns your agency may have regarding the proposed water storage project at the Roth Industrial Park in South Sioux City. Please provide comment within 30 days of receipt of this letter.

If you have any questions, or require additional information, please do not hesitate to call me at 402.938.2492. Your response may also be forwarded to my e-mail address – acherko@olsson.com. Thank you for your assistance.

Sincerely,

Amy Cherko

Amy Cherko, Project Scientist

2111 South 67th Street, Suite 200
Omaha, NE 68106

TEL 402.341.1116
FAX 402.341.5895

www.olsson.com

Appendix B

South Sioux City Water Tower Project Overview– Olsson Associates, November 2018, Project No. 017-0781

IMAGE PLACEHOLDER - 7.75"X9"

SOUTH SIOUX CITY WATER STORAGE PROJECT

Prepared for:

City of South Sioux City

South Sioux City, Nebraska

(Signed and Dated Seal)

November 2018

Olsson Project No. 017-0781

olsson

ACRONYMS AND ABBREVIATIONS

LF.. ..... Linear Feet
DIP..... Ductile Iron Pipe
PVC ..... Polyvinl Cloride
SSC ..... South Sioux City
MGD ..... Million Gallons per Day
EDA ..... Economic Development Agency
PPC ..... Public Protections Classifications
gpm..... Gallons per Minute

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APPENDICES

1. PROJECT COMPONENTS

The South Sioux City Water Storage Project consists of constructing a new 2.5 million gallon water storage facility on an existing City owned 2 acre lot. The new water tower to be erected will be a composite water tower which will consist of a concrete pedestal base supporting a welded steel tank. Included in the construction of the project will be the replacement of 265 LF of 16" PVC water main, 279 LF of 48" RCP storm sewer pipe, and new installation of 176 LF of 24" DIP water main.

2. VERIFICATION SECTION B.2 OF FORM ED-900

The EDA's investment will be used for the construction of South Sioux City Nebraska's Water Storage Improvement project. The main feature will be the construction of a 2.5 million gallon water tower near the existing Con Agra tank. The location was selected because of connectivity to the existing water infrastructure and accessibility of the land.

3. DRAWINGS

See Appendix A.

4. FEASABILITY ANALYSIS

4.1. Introduction

South Sioux City currently has four existing water towers. They are each 250,000 gallons totaling 1 million gallons. In addition to the storage provided by the towers SSC has the option to purchase water from Sioux City in the amount of 2.7 MGD. This is currently a necessity to keep up with peak day demands. On a peak day SSC demands 4.7 MGD, this depletes the existing Con Agra tank to 55% of its storage. On a peak demand day, if a fire were to occur or the Sioux City water supply were to be shut down for any reason the Con Agra tank and potentially two other tanks would be completely depleted of water. This would cause the industries in the Roth Park area to shut down their operations and residents throughout SSC to experience low pressures.

4.2. Design

Based on water modeling & analysis of the existing system, Olsson recommends a 2.5 million gallon water storage facility be constructed next to the existing Con Agra water tower. The size of the water tower was determined based on a two main factors: the current and future

demands of SSC, and the fire suppression requirements laid out in the Public Protections Classifications Summary Report prepared by Insurance Services Office, Inc.

To analyze the current and future water demands for South Sioux City data was provided by SSC showing the total usage for the last three years (2014-2016). The data included the monthly amount of water produced at the water treatment facilities and the water bought from Sioux City. This is included in Appendix B.

Based on the date the average daily use was 2.7 MGD. In 2016 the average rose to 3.0 MGD. The peak month was 3.5 MGD in August 2016, and the peak day was 4.7 MGD on July 16th, 2016. From 2014-2016 SSC experienced an 11.5% year to year growth in water usage. This is shown in Figure 1 below.

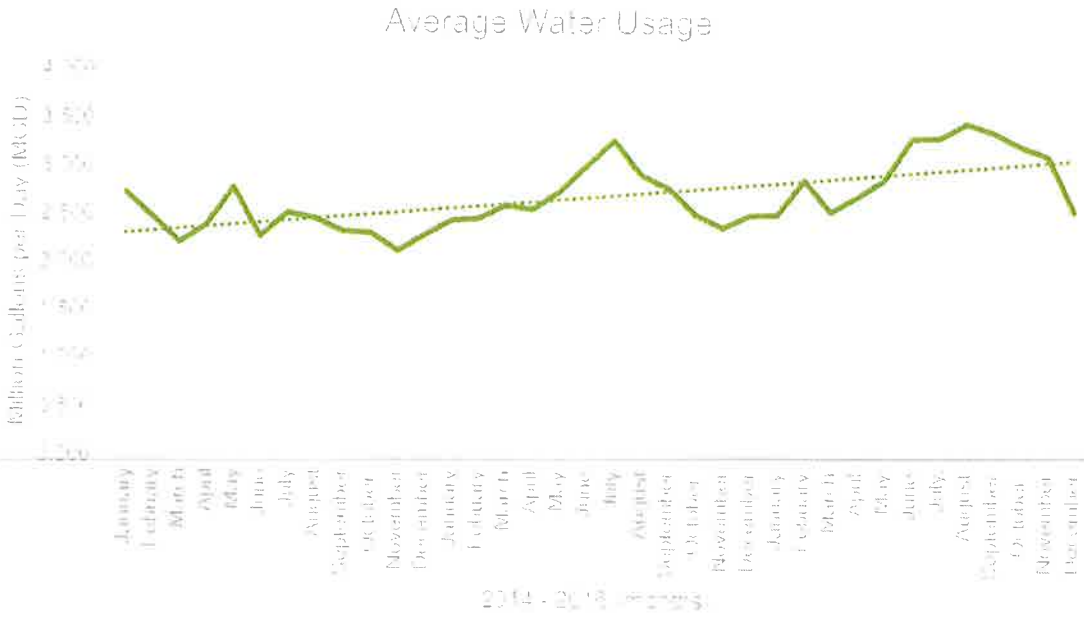

Figure 1. Average Water Usage from 2014-2016.

For the design peak day, 6.5 MGD was used. This was calculated by taking the current peak day of 4.7 MGD, adding .4 MGD demand for future housing developments, and 1.4 MGD future industries in Roth Park.

Fire flow demands from the PPC Report for South Sioux City identified the 4 locations across the city where the fire flow needs would be the greatest. These are given as follows:

• 4500 gpm	D St. & E 5th St.	Marina Inn & Conference Center
• 4500 gpm	Broadmoor Dr. and 29th St	Liberty Place Apartments
• 4500 gpm	200 East 39 Street	Dakota Point Apartments
• 4000 gpm	G St. & Pine St.	South Sioux City Schools

According to the AWWA manual M31 Distribution System Requirements for Fire Protection for a fire flow of 4000-4500 gpm it is recommended to assume a 4 hour duration for that fire. This would equate to a demand of 1 million gallons over 4 hours. The PPC report can be reviewed in Appendix C.

Based on the current peak day demand, design peak day demand, and the fire flow demands scenarios were modeled with and without a new water tower.

The first scenario is a scenario for existing conditions, a fire at the Dakota Point Apartments on a peak demand day. The results are shown in the figure below. The model shows the Con Agra tank would be depleted of water during the fire.

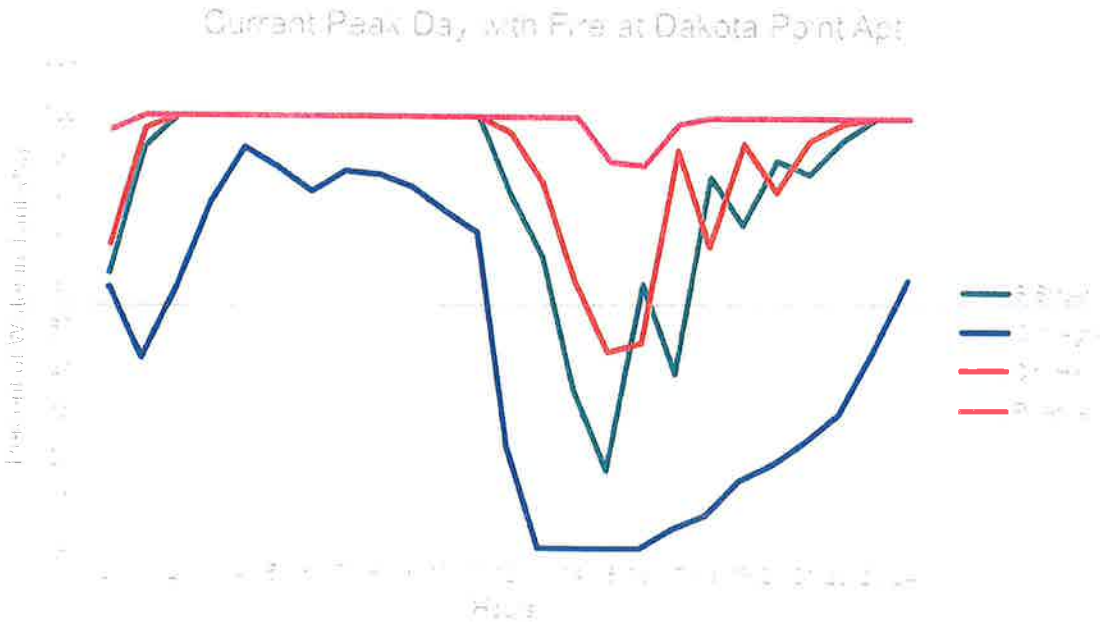

Figure 2. Current Peak Day of 4.7 MDG with a Fire Flow of 4500 gpm.

Alternatively by constructing a new 2.5 MG water tower the model shows the new tower will remain 20% full during a designed worst case scenario. This is shown in the figure below. During this scenario a design peak day of 6.5 MGD and a fire flow of 4500 gpm was used and positive pressure in the system is maintained.

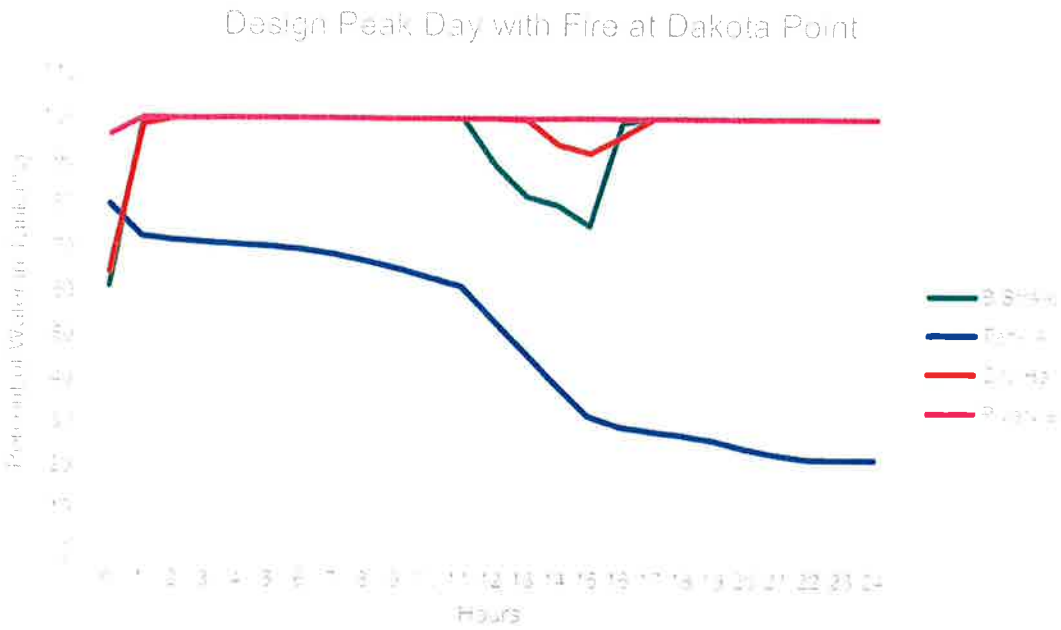

Figure 3. Proposed Tower with a Design Peak Day of 6.5 MDG with a Fire Flow of 4500 gpm.

4.3. Location

Multiple sites were reviewed as a possible locations for the construction of the tower. One reason for site selections was conductivity to the existing system. At this location there is an existing 16" line running through the property. This line is a direct conduit to the Sioux City Interconnect and then continues to the businesses of Roth Industrial Park. This means the water tower can be filled more rapidly than other locations while providing most of the water necessary for the industries. This provides a buffer between the smaller water towers throughout the city and helps maintain a constant pressure for residents even when demands of the industrial park are high. Another reason this site was chosen was because the land is already owned by the City so no land acquisitions will be necessary.

Site improvements include the existing water main will need to be relocated, existing storm sewer will need to be relocated, and a existing road will need to be regraded. A nearby high pressure gas line that is catholically protected will require that cathodic protection be added to the relocated water lines installed on site.

5. CONSTRUCTION/BID METHOD

This construction procurement will follow the traditional design, bid, build process and be done through competitive bid by unit price.

6. CONTRACTS

It is anticipated that only one construction contract will be needed for the project.

7. COST ESTIMATE

Table 1. Total Cost of Project.

Item Description	Price
Composite Elevated Tank	$ 3,700,000.00
Deep Foundation	$ 100,000.00
Tank Coatings and Logo	$ 50,000.00
Tank Mixing System	$ 75,000.00
Electrical Service	$ 25,000.00
Antenna Provisions	$ 20,000.00
Site Improvements	$ 50,000.00
10% Contingency	$ 402,000.00
Total Capital Costs	$ 4,422,000.00

8. REAL PROPERTY ACQUISITION

No property acquisition is anticipated for this project. Proposed site is located on existing city owned land.

9. PERMITS

- Department of the Army Nationwide Permit No 39. Submitted and received.
- Department of Health and Human Services construction permit. Has not been submitted.
- NPDES Permit NER160000 for Storm Water Discharges from Construction Sites to Waters of the State of Nebraska. Has not been submitted

10. PROJECT SCHEDULE

- Grant Award January 1, 2019
- Final Design and HHS review (3 months) April 1, 2019
- Bidding (1 Months) May 1, 2019
- Construction Kick -Off June 2019
- Construction Completion (18 Months) November 2020

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2017-ACE-3175-OE

Issued Date: 08/01/2017

Bob Livermore
City of South Sioux City
1615 1st Ave
South Sioux City, NE 68776

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Water Tank SSC 2.5 MG Water Tower
Location:	South Sioux City, NE
Latitude:	42-26-13.00N NAD 83
Longitude:	96-24-59.00W
Heights:	1100 feet site elevation (SE)
	170 feet above ground level (AGL)
	1270 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 1.

This determination expires on 02/01/2019 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2527, or marla.wierman@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2017-ACE-3175-OE.

Signature Control No: 337137302-339576057 (DNE)
Marla Wierman
Technician

Attachment(s)
Map(s)

TOPO Map for ASN 2017-ACE-3175-OE