Appendix C

Wetland Delineation Report and Wetland Mitigation Confirmation

Wetland Delineation Report

I-29 Exit 130 (20th Street South) Interchange EM 0295(45)130, PCN 020V Brookings County, South Dakota

June, 2020



Authored by:

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1.0 Introduction

HDR was contracted by the South Dakota Department of Transportation (SDDOT) to complete a wetland delineation in support of the proposed 20th Street Interchange project in Brookings, South Dakota (the Project). The Project consists of studying a new interchange along Interstate 29 (I-29) at 20th Street South that would be approximately one mile long. The Project also considers the improvement of 20th Street South from 22nd Avenue South to 34th Avenue South, for a length of approximately one mile.

1.1 Project Location

The Project is located in southeast Brookings along 20th Street South from 22nd Avenue to 34th Avenue and north and south along I-29 (Figure 1). The Study Area comprises approximately 196 acres.

1.2 Purpose and Need

The purpose of the Project is to relieve congestion on major north/south and east/west arterials within Brookings to better connect workers and places of employment, and to provide access for planned economic development. The Project needs are to increase traffic capacity and improve system linkage.

2.0 Survey Methodology

HDR conducted a wetland delineation on May 12, 2020 to identify and document wetland boundaries and other potential waters of the U.S. (OWUS) within the Study Area.

Field delineated wetlands were delineated in accordance with guidelines provided in the Corps of Engineers Wetlands Delineation Manual (Manual) (United States Army Corps of Engineers [USACE], 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (Supplement) (USACE, 2010).

Desktop wetland boundaries were established following the field visit by utilizing Google Earth Aerial photography (12 years available), National Wetland Inventory (NWI), Natural Resource Conservation Service (NRCS) soil mapping, contours derived from Light Detection and Ranging (LiDAR) data, and the National Hydrography Dataset (NHD).

An area is considered a wetland if it meets three USACE defined requisite criteria as provided in the Manual and Supplement (USACE 1987; 2010): hydrophytic vegetation, hydric soils, and wetland hydrology. Wetland boundaries were delineated where all three were present. A Cowardin class was also assigned to each wetland in accordance with the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al., 1979).

Sampling points and aquatic resource boundaries were collected using an EOS Arrow 100 Global Navigation Satellite System (GNSS) customized to collect data with sub-meter accuracy. The resulting GNSS data were used to generate the wetland delineation maps depicting wetlands and other Waters of the U.S. (OWUS) present within the Study Area.

2.1 Hydrology

Wetland hydrology was determined in the field using the primary and secondary hydrology indicators listed in the Manual and the Supplement (USACE, 1987; 2010). If the area displayed one or more primary hydrology indicators or two or more secondary hydrology indicators, a positive wetland hydrology determination was made.

2.2 Soils

Hydric soil determinations were made according to criteria listed in the Midwest Regional Supplement (2010) and Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 8.1 (United States Department of Agriculture [USDA], 2017). Soil pits were excavated to a depth necessary to confirm the presence or absence of hydric soil indicators, and the soil profile was described. Each horizon was evaluated for soil color, thickness, and the color, abundance, and contrast of redoximorphic features (mottles), and soil texture. Munsell soil color charts were used to determine the color of the soil matrix and redoximorphic features. The feel or ribbon test was used to determine soil texture. If the soil profile displayed one or more hydric soil indicators, a positive hydric soil determination was made. Table 1 summarizes the soils within the Study Area including which soils are classified as hydric (NRCS, 2019).

Table 1. Soils within Study Area

Map Unit Name	Map Unit Symbol	Acres	Percent Hydric	Associated Data Points
Barnes clay loam, 2 to 6 percent slopes	BbB	12.2	2	
Hamerly-Badger complex, 0 to 2 percent slopes	Hb	2.1	35	
Swenoda-Lanona sandy loams, 0 to 2 percent slopes	SwA	5.7	1	
Water	W	4.8	0	02W
Lowe loam, 0 to 1 percent slopes, occasionally flooded	Z154A	6.4	89	06W, 06U
Divide loam, 0 to 2 percent slopes, occasionally flooded	Z159A	13.3	10	08W, 08U
Moritz, occasionally flooded-Lamoure, frequently flooded, complex, 0 to 2 percent slopes	Z160A	1.0	35	07W, 07U

Map Unit Name	Map Unit Symbol	Acres	Percent Hydric	Associated Data Points
Fordtown loam, 0 to 2 percent slopes, rarely flooded	Z166A	77.9	0	01bU, 01U, 01W, 09W, 09U, 10U
Fordtown, rarely flooded- Spottswood, ocassionally flooded, loams, 0 to 2 percent slopes	Z169A	54.8	1	02U, 03W, 03U, 04W, 04U, 05W, 05U
Udorthents, coteau (gravel pits)	Z177	10.0	0	
Maddock-Egeland sandy loams, coteau, 2 to 6 percent slopes	Z186B	8.5	0	

2.3 Vegetation

Vegetation cover was recorded by stratum (USACE, 2010). The tree stratum is defined by the Regional Supplement to be a woody stemmed plant with a trunk diameter at breast height (DBH) of equal to or greater than 3 inches, regardless of height. The sapling and shrub stratum is defined by the Supplement to be composed of woody-stemmed plants with a trunk DBH of less than 3 inches, regardless of height. The herbaceous stratum includes all non-woody-stemmed plants regardless of height. Finally, the woody vine stratum includes all woody-stemmed vines, regardless of diameter.

The binomial scientific name and absolute cover of each species were recorded within a 30-foot radius for the tree stratum, 15-foot radius for the sapling and shrub stratum, 5-foot radius for the herbaceous stratum, and 30-foot radius for the woody vine stratum. The appropriate wetland indicator status was assigned to each plant species. Hydrophytic and non hydrophytic (or upland) species were differentiated by their respective indicator status per Lichvar (2016), which include obligate (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and upland (UPL), respectively. A plant community meeting the requisite criteria of the Rapid Test for Hydrophytic Vegetation, Dominance Test greater than 50 percent, Prevalence Index less than or equal to 3.0, Morphological Adaptations, Wetland Non-Vascular Plants, or Problematic Hydrophytic Vegetation was determined to meet the USACE criteria for hydrophytic vegetation.

3.0 Delineation Results

3.1 Field Delineated Wetlands

3.1.1 Slope Wetland

Wetland 01

Wetland 01a is a slope wetland that drains southwest through Edgebrook Golf Course. Wetland 01b is an excavated pond within the slope wetland. The wetland is conveyed south through a

culvert under a two tracked road that is an extension of 20th Street South. Wetland 01c extends through a ditch to the east and outlets into a former gravel pit.

Wetland 02

Wetland 02 is a former gravel pit with narrow of lacustrine fringe wetland surrounding open water habitat. This wetland was previously determined to be non-jurisdictional (NWO-2018-1398-PIE) and was documented to be "an artificial pond excavated in upland and used for irrigation". Recently, trees were removed from the former island and west end of the pond and fill was placed within the wetland. At the time of the delineation, surface water was discharging to the south through a culvert and into a drainage ditch.

Wetland 03

Wetland 03 is a maintained drainage ditch that was cut through either upland or a former broader slope wetland. Emergent herbaceous vegetation is growing throughout the majority of the channel. A berm of dredged fill lines the channel and is beginning to establish some young woody vegetation. Based on the available aerial imagery and the presence of small trees that are beginning to establish, it is likely the ditch has been dredged within the past decade using best professional judgment. Wetland 03 had surface flow at the time of the delineation which dissipated to the south as it drained toward the excavated pond on the southern end of the Study Area. It is likely that water drains via subsurface flow out of the excavated pond aside from abnormally large precipitation events.

Wetland 07

Wetland 07 is a sloped wetland on the eastern termini of the Study Area. It drains west through a culvert beneath 34th Avenue and then drains south within the road ditch. Wetland 07 was previously determined to be jurisdictional (NWO-2015-2427-PIE)

3.1.2 Depressional Wetland

Wetland 04

Wetland 04 is a poorly defined depressional area located in what was likely a former sloped wetland. The berm on the west side of Wetland 03 holds back water which can impound slightly prior to draining to the south and into a ditch that conveys water through a culvert into Wetland 03.

Wetland 05

Wetland 05 is an isolated prairie pothole wetland previously determined to be non-jurisdictional (NWO-2015-2427-PIE). It lacks a direct surface water (i.e., bed and bank channel) or shallow sub-surface (i.e., continuous wetland) connection to the Big Sioux River.

Wetlands 08 and 09

Wetlands 08 and 09 are ditch wetlands to the north and south of 20th Street and east of I-29. They have been constructed in upland and appear to drain only upland. No continuous surface wetland connection is present to other downstream tributaries. Consequently, these wetlands are likely to be determined preamble.

3.1.2 Riverine Wetland

Wetland 06

Wetland 06 is comprised of herbaceous fringe wetland abutting Stream 1 and was previously determined to be jurisdictional (NWO-2015-2427-PIE). The wetland has been significantly altered by dredging and its adjacent land use which is currently an active gravel mine.

3.2 Desktop Delineated Wetlands

Wetland 10

Wetland 10 is located between I-29 and Lake 01, a lacustrine system formed as a result of gravel mining. This wetland is a permittee responsible mitigation site that was constructed by converting an existing lake (Lake 01) to a seasonally flooded wetland with a 50-foot-wide buffer. This wetland mitigation was intended to offset 15.4 acres of seasonally and temporarily flooded jurisdictional wetlands associated with an authorized fill activity associated with NWO-2008-01333-PIE. Tract A & Tract B, Wetland Easement, LG Everist Addition totals 17.8 acres. The wetland area within the easement was delineated using a desktop approach since the entirety of the site, including upland buffer, is a necessary component of the site to meet permit conditions.

Wetlands 11 and 12

Wetlands 11 and 12 are located in Edgebrook Golf Course and appear to have been constructed in upland. Consequently they will likely be determined preamble.

3.3 Other Potential Waters of the U.S.

Stream 01

Stream 01 has distinguishable bed and bank features and narrow fringe wetland (Wetland 6) and was previously determined to be jurisdictional (NWO-2015-2427-PIE). During the previous jurisdictional determination it was noted to have a distinct bed and bank; however, wetland characteristics predominated within the channel. The flow of the tributary was noted to be ephemeral with subsurface flow within the previous jurisdictional determination. During the field visit for this effort, it appeared as though the channel was dredged in recent years; however, herbaceous vegetation was reclaiming itself within the channel. The apparent bed and bank features appear to be the result of dredging within what may have been a former slope wetland rather than the result of normally occurring flows. The flow regime appeared to be intermittent based on field observations at the time of the delineation as there was surface water conveyance in absence of rain in the days leading up to the field visit. However, due to the high water table that remains within the region as a result of the previous two record wet years, normal environmental conditions may not yet be present. For this reason, it is difficult to make a determination as to whether the flow regime is intermittent or ephemeral with the available data.

Lake 01

Lake 01 is a lacustrine system comprised mainly of deep water limnetic habitat with minimal amounts of littoral habitat around the edges. Lake 01 has a gravel bottom and was formed as a result of open pit gravel mining. Surface water was discharging to the south via drain under 20th Street and into Stream 01 at the time of the wetland delineation.

Table 2. Delineated Wetlands

44.28305 -96.7645 R4SBC Slope Likely Non Jurisdictional 44.28256 -96.7615 PEMAX Slope Likely Non Likely Non Likely Non Jurisdictional 44.28173 -96.7601 PUB1x Depressional Jurisdictional Likely Non Jurisdictional Jurisdictional 44.27785 -96.7594 PEMAd Slope Likely Non Jurisdictional Likely 44.28201 -96.7544 RP1EM Riverine Likely Non Jurisdictional Likely 44.28168 -96.7543 RP1EM Riverine Preamble 44.28144 -96.7482 PEMAX Slope Jurisdictional Likely 44.28245 -96.7484 PEMAX Slope Jurisdictional Likely 44.28228 -96.7489 PEMAX NA (Ditch) Preamble 44.28228 -96.7489 PEMAX NA (Ditch) Preamble	Feature	Area (acres)	Latitude (Dec Deg)	Longitude (Dec Deg)	Cowardin Classification	Wetland Type*	Jurisdictional Status**	Associated Wetland Data Point	NWI Identifier
0.35 44.28255 -96.7633 R4SBCX Slope Likely Non Non Likely Non Non Non Non Non Non Non Likely Non Likely Non Likely Non Likely Non Likely Non Non Non Non Non Likely Non Non Likely Non Likely Non Non Likely Non Likely Non Non Non Non Likely Non Likely Non	WL-01a	0.09	44.28305	-96.7645	R4SBC	Slope	Likely Non Jurisdictional	N/A	R4SBC
0.27 44.28230 -96.7615 PEMAx Slope Likely Non	WL-01b	0.35	44.28255	-96.7633	R4SBCx	Slope	Likely Non Jurisdictional	01W	R4SBC
3.29 44.28173 -96.7601 PUB1x Depressional Jurisdictional Jurisdic	WL-01c	0.27	44.28230	-96.7615	PEMAx	Slope	Likely Non Jurisdictional	N/A	PEMCx
1.63 44.27753 -96.7591 PEMAd Slope Likely Non Jurisdictional 0.71 44.27849 -96.7594 PEMAd Slope Likely Non Jurisdictional 0.14 44.27785 -96.7572 PEMAd Depressional Jurisdictional 0.17 44.28201 -96.7544 RP1EM Riverine Preamble 0.12 44.28183 -96.7543 RP1EM Riverine Preamble Likely Preamble 0.03 44.28168 -96.7482 PEMAx Slope Jurisdictional Jurisdictional Jurisdictional Jurisdictional Jurisdictional Jurisdictional Preamble Likely Preamble 0.03 44.28245 -96.7484 PEMAx NA (Ditch) Preamble Likely Preamble 0.04 44.28228 -96.7489 PEMAx NA (Ditch) Preamble Likely Preamble	WL-02	3.29	44.28173	-96.7601	PUB1x	Depressional	Likely Non Jurisdictional	02W	PABFx
0.71 44.27849 -96.7594 PEMAd Slope Likely Non Jurisdictional 0.14 44.27785 -96.7572 PEMAd Depressional Jurisdictional 0.17 44.28201 -96.7544 RP1EM Riverine Preamble 0.12 44.28183 -96.7543 RP1EM Riverine Preamble Likely Preamble 0.03 44.28144 -96.7476 PEMAx Slope Jurisdictional Jurisdictional Jurisdictional Preamble 0.03 44.28245 -96.7484 PEMAx NA (Ditch) Preamble 0.04 44.28228 -96.7489 PEMAx NA (Ditch) Preamble 0.02 44.28229 -96.7489 PEMAx NA (Ditch) Preamble	WL-03	1.63	44.27753	-96.7591	PEMAd	Slope	Likely Non Jurisdictional	03W	PEMAd
0.14 44.27785 -96.7572 PEMAd Depressional Jurisdictional Jurisdictional Jurisdictional Jurisdictional Likely 0.17 44.28201 -96.7544 RP1EM Riverine Preamble Preamble Preamble 0.12 44.28183 -96.7543 RP1EM Riverine Preamble Preamble 0.03 44.28168 -96.7476 PEMAx Slope Jurisdictional Jurisdictional Jurisdictional Preamble 0.03 44.28245 -96.7484 PEMAx NA (Ditch) Preamble 0.04 44.28228 -96.7489 PEMAx NA (Ditch) Preamble 0.02 44.28229 -96.7509 PEMAx NA (Ditch) Preamble	WL-04	0.71	44.27849	-96.7594	PEMAd	Slope	Likely Non Jurisdictional	04W	PEMAd
0.17 44.28201 -96.7544 RP1EM Riverine Likely Preamble 0.12 44.28183 -96.7543 RP1EM Riverine Likely Preamble 0.3 44.28168 -96.7476 PEMAx Slope Jurisdictional 0.01 44.28144 -96.7482 PEMAx Slope Jurisdictional 0.03 44.28245 -96.7484 PEMAx NA (Ditch) Preamble 0.04 44.28228 -96.7489 PEMAx NA (Ditch) Preamble 0.02 44.28229 -96.7489 PEMAx NA (Ditch) Preamble	WL-05	0.14	44.27785	-96.7572	PEMAd	Depressional	Non Jurisdictional	05W	PEMAd
0.12 44.28183 -96.7543 RP1EM Riverine Likely 0.3 44.28168 -96.7476 PEMAx Slope Likely 0.01 44.28144 -96.7482 PEMAx Slope Likely 0.03 44.28245 -96.7484 PEMAx NA (Ditch) Preamble 0.04 44.28228 -96.7489 PEMAx NA (Ditch) Preamble 0.02 44.28229 -96.7509 PEMAx NA (Ditch) Preamble	WL-06a	0.17	44.28201	-96.7544	RP1EM	Riverine	Likely Preamble	M90	PEMAd
0.3 44.28168 -96.7476 PEMAx Slope Likely Likely Likely 0.01 44.28144 -96.7484 PEMAx NA (Ditch) Likely Likely Preamble 0.03 44.28245 -96.7484 PEMAx NA (Ditch) Likely Preamble 0.04 44.28228 -96.7489 PEMAx NA (Ditch) Likely Preamble 0.02 44.28229 -96.7509 PEMAx NA (Ditch) Likely Preamble	WL-06b	0.12	44.28183	-96.7543	RP1EM	Riverine	Likely Preamble	N/A	L2UB
0.01 44.28144 -96.7482 PEMAx Slope Likely 0.03 44.28245 -96.7484 PEMAx NA (Ditch) Likely 0.04 44.28228 -96.7489 PEMAx NA (Ditch) Likely 0.02 44.28229 -96.7509 PEMAx NA (Ditch) Likely	WL-07a	0.3	44.28168	-96.7476	PEMAx	Slope	Likely Jurisdictional	W20	PEMA
0.03 44.28245 -96.7484 PEMAx NA (Ditch) Likely Preamble 0.04 44.28228 -96.7489 PEMAx NA (Ditch) Likely Preamble 0.02 44.28229 -96.7509 PEMAx NA (Ditch) Likely Preamble	WL-07b	0.01	44.28144	-96.7482	PEMAx	Slope	Likely Jurisdictional	N/A	PEMA
0.04 44.28229 -96.7509 PEMAx NA (Ditch) Likely Preamble 0.02 44.28229 -96.7509 PEMAx NA (Ditch) Likely Preamble	WL-08a	0.03	44.28245	-96.7484	PEMAx	NA (Ditch)	Likely Preamble	08W	PEMCx
0.02 44.28229 -96.7509 PEMAx NA (Ditch) Likely Preamble	WL-08b	0.04	44.28228	-96.7489	PEMAx	NA (Ditch)	Likely Preamble	N/A	PEMCx
	WL-08c	0.02	44.28229	-96.7509	PEMAx	NA (Ditch)	Likely Preamble	N/A	PEMCx

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Feature	Area (acres)	Latitude (Dec Deg)	Longitude (Dec Deg)	Cowardin Classification	Wetland Type*	Jurisdictional Status**	Associated Wetland Data Point	NWI Identifier
P80-7M	0.16	44.28242	-96.7520	PEMAx	NA (Ditch)	Likely Preamble	N/A	PEMCx
WL-08e	90.0	44.28229	-96.7522	PEMAx	NA (Ditch)	Likely Preamble	N/A	PEMCx
WL-08f	0.02	44.28229	-96.7534	PEMAx	NA (Ditch)	Likely Preamble	N/A	PEMCx
WL-09a	0.02	44.28243	-96.757	PEMAx	NA (Ditch)	Likely Preamble	N/A	PEMCx
q60-7M	0.01	44.28244	9952'96-	PEMAx	NA (Ditch)	Likely Preamble	N/A	PEMCx
060-JW	0.04	44.28244	-96.7557	PEMAx	NA (Ditch)	Likely Preamble	N/A	PEMCx
p60-7//	0.13	44.2823	-96.7559	PEMAx	NA (Ditch)	Likely Preamble	M60	PEMCx
WL-10	8.65	44.28672	-96.757	PUBHx	Depressional	Likely Non Jurisdictional	N/A	PEMA
WL-11	1.51	44.28389	-96.7598	PUBHx	Depressional	Likely Preamble	N/A	PEMC
WL-12	1.04	44.28307	-96.7614	PUBHx	Depressional	Likely Preamble	N/A	PEMAd
Total Wetland Acres	18.81							

^{*}Wetland type refers to the HGM classification: depressional, riverine, or slope wetlands; **Jurisdictional Status assist SDDOT with determining whether or not the feature is under the authority of the USACE;

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NWI Identifier R4SBC Jurisdictional Status* Likely Jurisdictional Table 3. Delineated Potential Other Waters of the US Cowardin Classification R4SB5d Longitude (Dec Deg) -96.754375 Latitude (Dec Deg) 44.281870 Area (Acres) 0.16 Length (feet) 332 Stream 01 Feature

PEMC

Likely Jurisdictional

L1UBx

-96.754061

44.283189

11.60

Ϋ́

Lake 01

11.76

332

Total

determination
jurisdictional
Not an approved
*

4.0 Conclusion

Based on the desktop review and field survey, the wetlands within the Study Area have been delineated. Twelve wetlands totaling 18.81 acres, one stream totaling 322 linear feet (0.16 acre), and one lake totaling 11.60 acres were delineated. This report, along with the accompanying geographic information system (GIS) spatial files, can be used to identify avoidance and minimization opportunities, as well as to quantify unavoidable impacts to wetlands and streams for the Project. Discussion points regarding a wetland's likelihood of being determined as jurisdictional, non-jurisdictional, or preamble is not intended to be nor should be interpreted as a legal determination. An approved jurisdictional determination must be requested from the USACE if a legal determination is desired.

5.0 References

- Cowardin, L. M.; Carter, V.; Golet, F. C.; LaRoe, E. T. (1979). Classification of Wetlands and Deepwater Habitats of the United States. Washington, D.C.: United States Department of Interior, Fish and Wildlife Service Report No. FWS/OBS/-79/31.
- Lichvar R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. (2016). The National Wetland Plant List: 2016 Wetland ratings. *Phytoneuron*, 2016-30:1-17.
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- USDA-NRCS. (2017). Field Indicators of Hydric Soils in the United States, Version 8.1. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committe for Hydric Soils.

6.0 Delineators Credentials

Kendall Vande Kamp, Environmental Scientist

Education: South Dakota State University, B.S. Env. Management

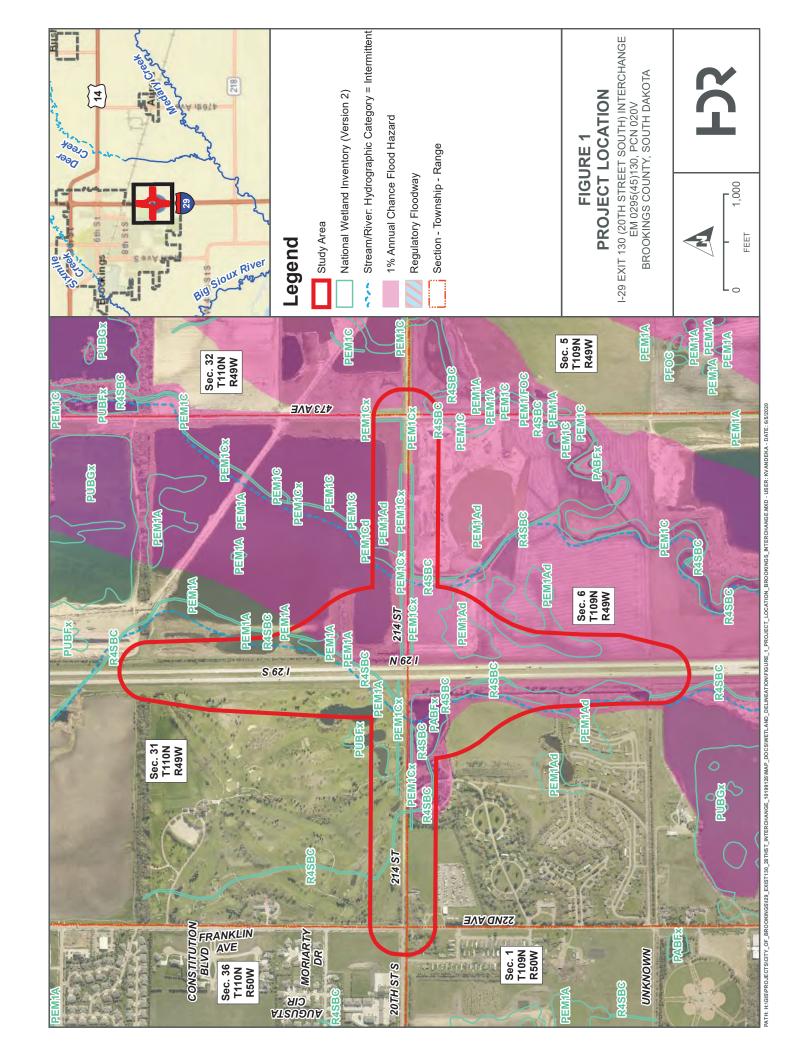
South Dakota State University, M.S. Biological Science

Training: Basic Wetland Delineation – Army Corps of Engineers

Wetland Delineation and Field Practicum

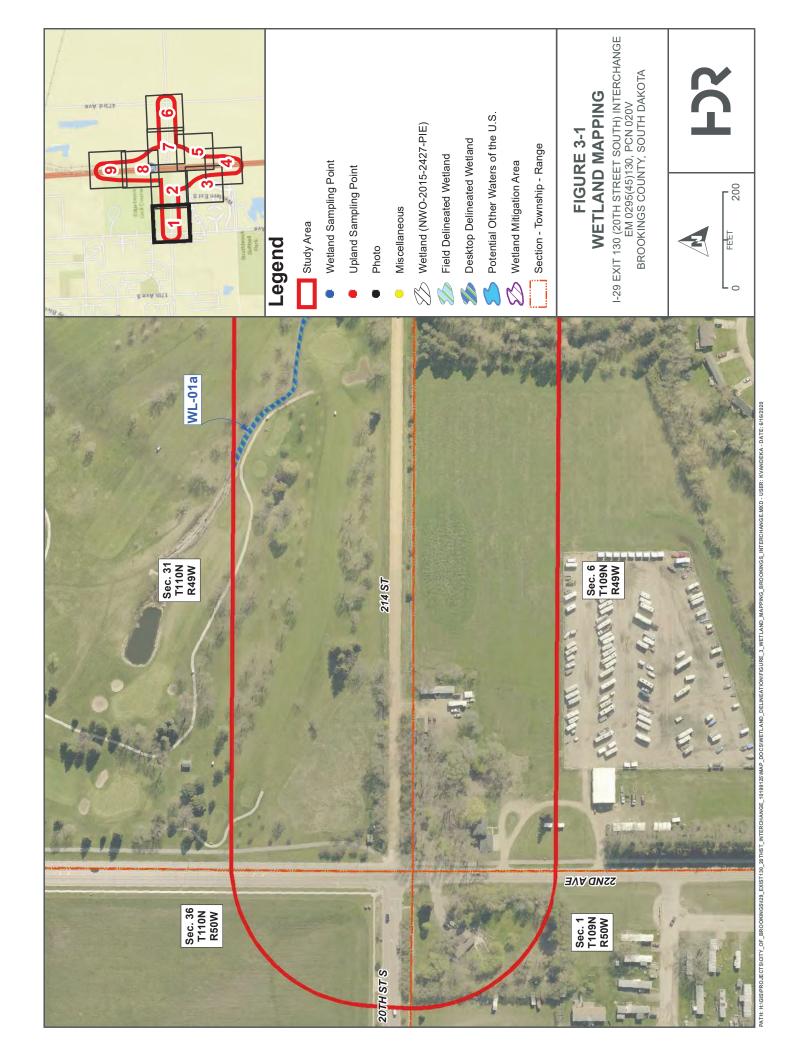
Caitlin Murphy, Environmental Scientist

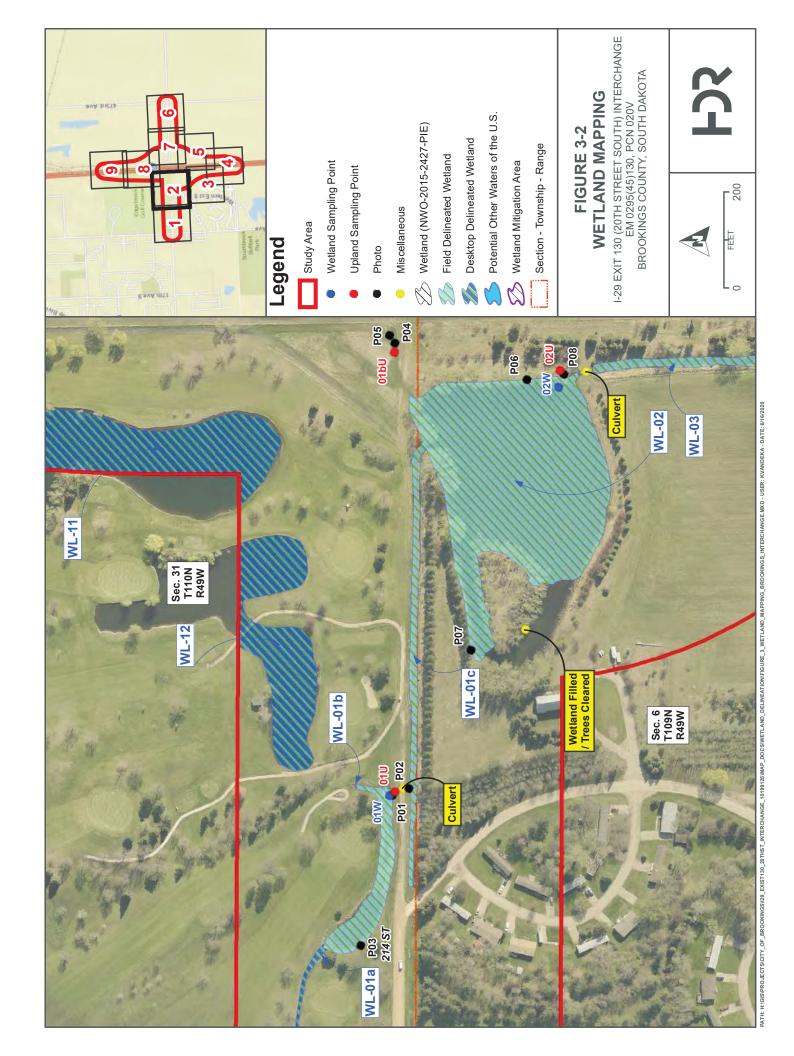
Education: Minnesota State University, Mankato, B.S. Environmental Science

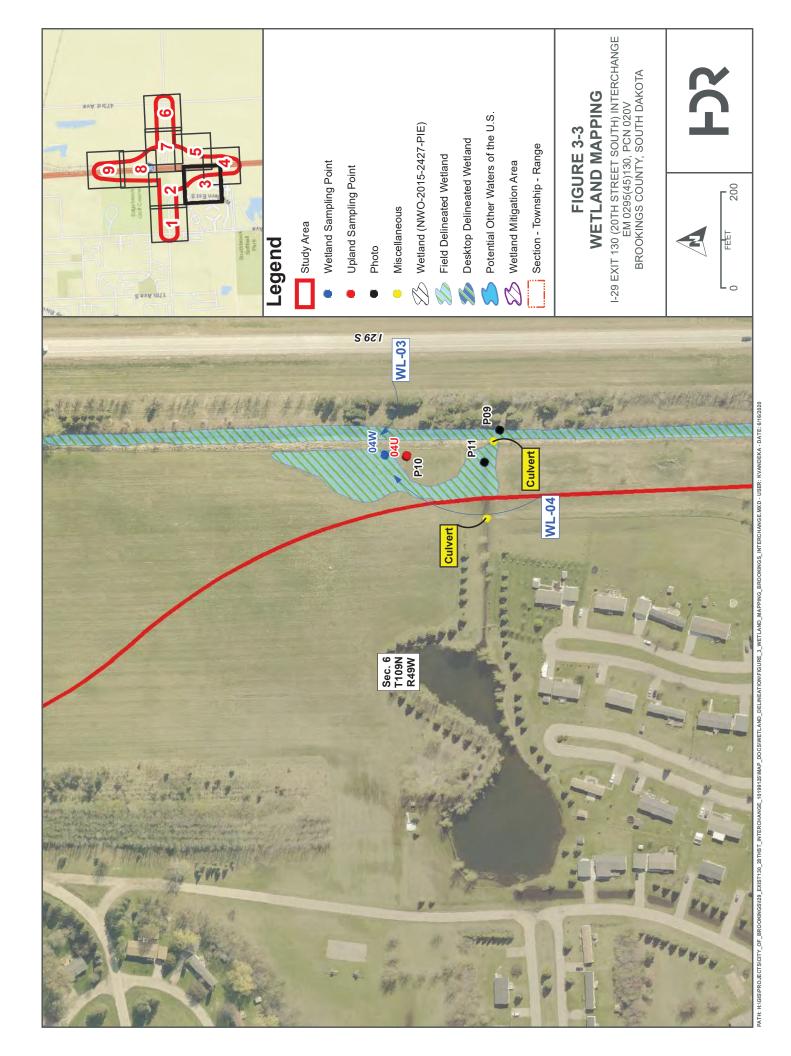


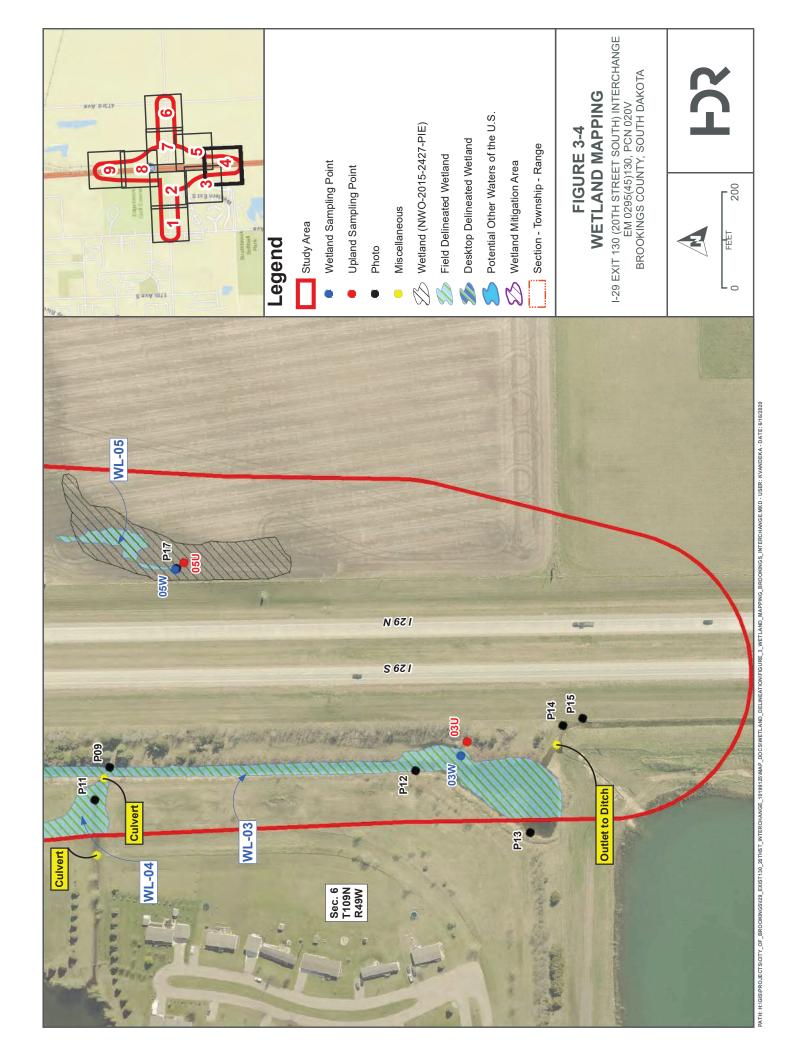
Z169A Hb BbB Z177 BBB Z159A W Z160A **Z166**A Z169A Z166A Soil Rating Polygons Hydric (100%) Hydric (66 to 99%) Hydric (33 to 65%) Hydric (1 to 32%) Not Hydric (0%) Not rated or not available

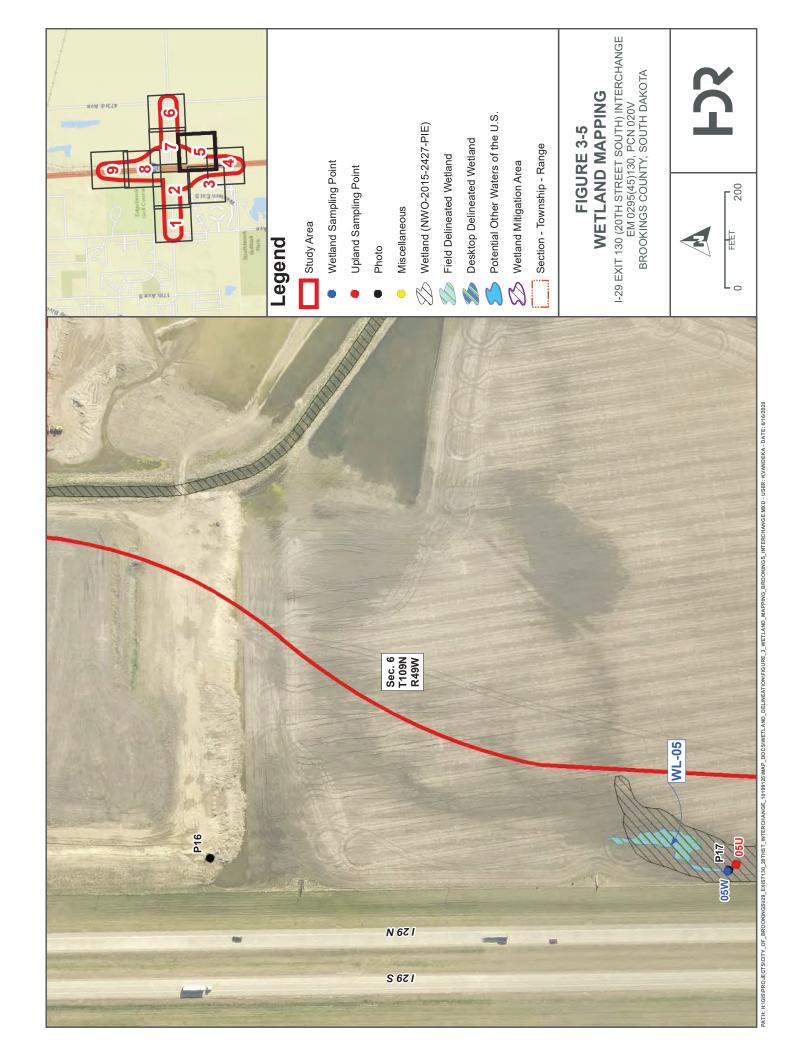
Figure 2. Hydric Soil Map

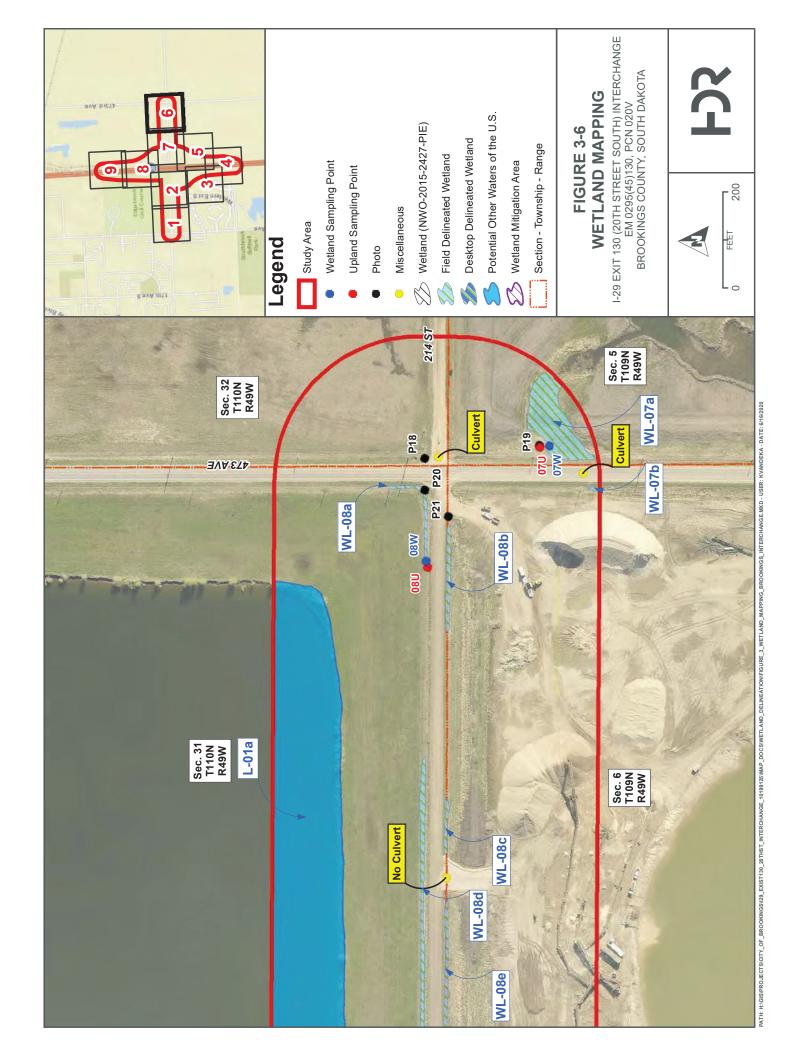


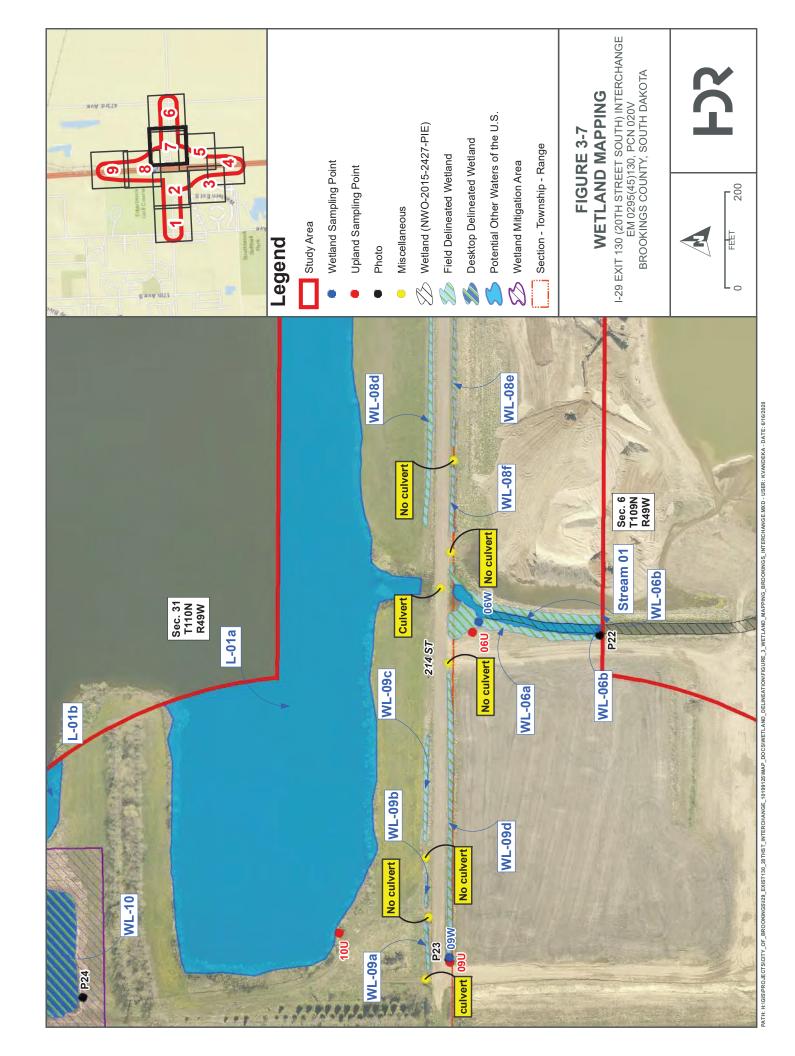


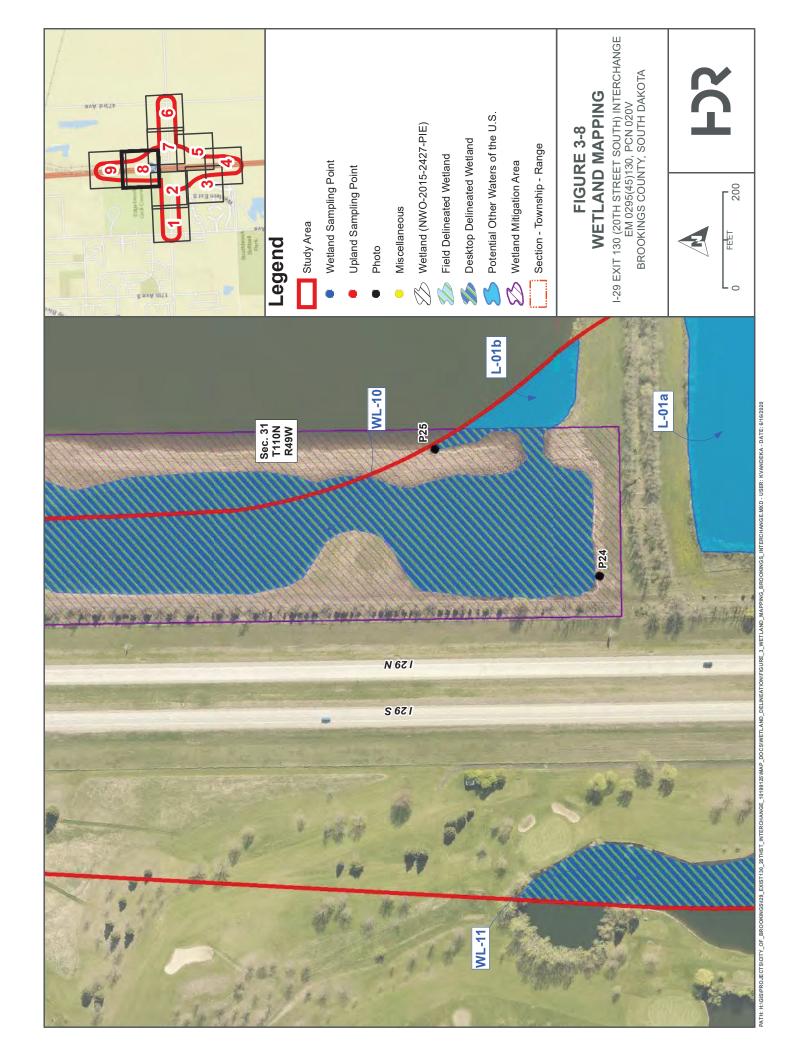


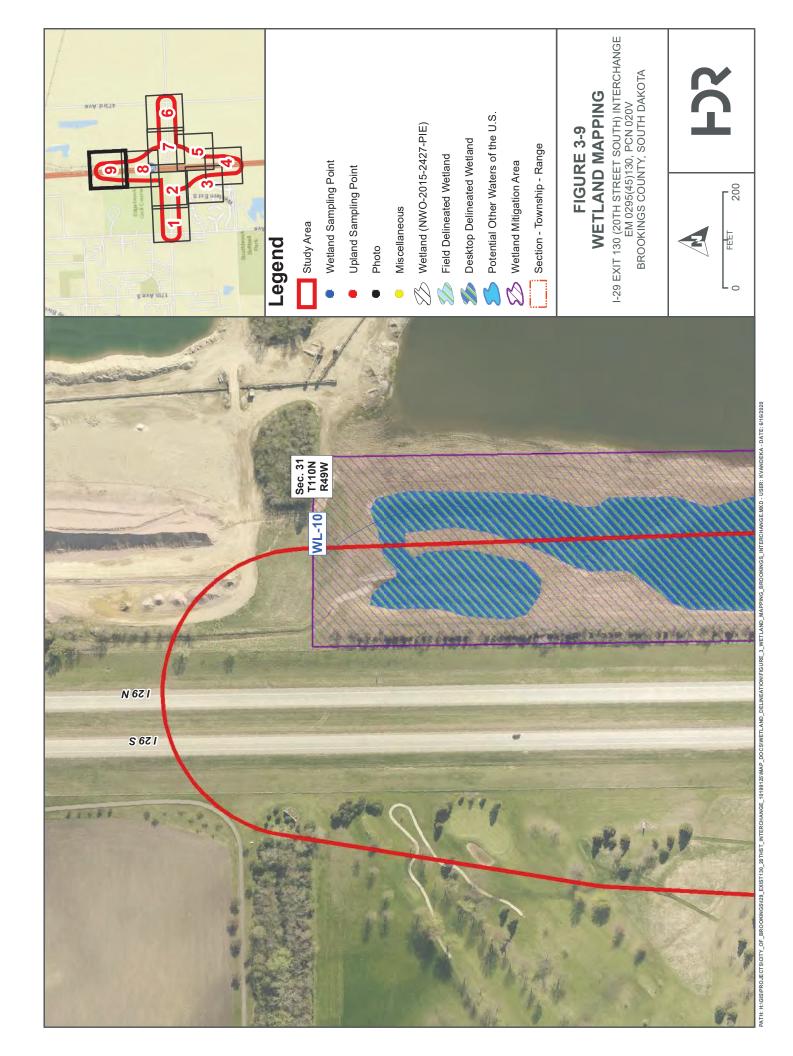












Appendix A. Site Photographs



Photo 1: Facing northwest toward Wetland 01b.



Photo 2: Facing east toward Wetland 01c



Photo 3: Facing east toward Wetland 01b.



Photo 4: Facing east toward culvert under I-29.



Photo 5: Facing west toward upland drainage.



Photo 6: Facing west toward Wetland 02 (tree removal).



Photo 7: Facing east toward Wetland 02.



Photo 8: Facing south toward Wetland 02 outlet into drainage ditch.



Photo 9: Facing north toward Wetland 03.



Photo 10: Facing north toward Wetland 04.



Photo 11: Facing east toward Wetland 04 outlet (culvert is capped).



Photo 12: Facing north toward Wetland 03 at south end.



Photo 13: Facing east toward borrow pit in Wetland 03.



Photo 14: Facing north east toward surface outlet of Wetland 03.



Photo 15: Facing south toward upland ditch south of Wetland 03.



Photo 16: Facing east toward filled NWI.



Photo 17: Facing north toward Wetland 05.



Photo 18: Facing north toward upland ditch along 473rd Avenue.



Photo 19: Facing south toward Wetland 07a east of 473rd Avenue.



Photo 20: Facing west toward Wetland 08 south of 20th Street.



Photo 21: Facing west toward Wetland 08 south of 20th Street.



Photo 22: Facing north toward Stream 01 and 20th Street.



Photo 23: Facing east toward Wetland 09 south of 20th Street.

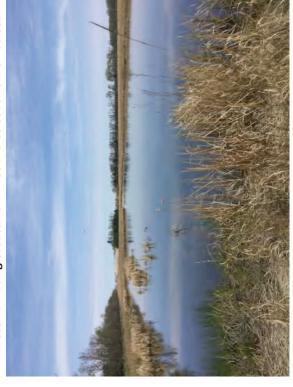


Photo 24: Facing north toward Wetland 10 (Wetland Mitigation Site).



Photo 25: Facing north toward Wetland 10 / Lake 1.



Photo 26: Soils from Data Point 01W



Photo 27: Soils from Data Point 01U



Photo 28: Soils from Data Point 02W.



Photo 29: Soils from Data Point 01bU



Photo 30: Soils from Data Point 03W.



Photo 31: Soils from Data Point 03U.



Photo 32: Soils from Data Point 04U.



Photo 33: Soils from Data Point 04W.



Photo 34: Soils from Data Point 05W.



Photo 35: Soils from Data Point 05U.



Photo 36: Soils from Data Point 06U.



Photo 37: Soils from Data Point 06W.



Photo 38: Soils from Data Point 07W.



Photo 39: Soils from Data Point 07U.



Photo 40: Soils from Data Point 10U.

Appendix B - Wetland Determination Data Forms

Project/Site: I-29 Exit 130 (20th S	Street South) Inter	change	City/Cour	nty: Brookin	gs / Brookin State		pling Date: _		20	
Investigators: Kendall VandeKar	nn Ca	aitlin Murp	hv			wnship, Range S 3		-	19W	
Landform (hillslope, terrace, etc.):	Swale	antinii iviui p	··· y			lief (concave, conve				
,	44.28242028		I ona:	-96.75906206		Datum: NAD	, 			
	am, 0 to 2 percen	t slopes i	_			NWI Classification:				
Are climatic / hydrologic conditions or				Yes X	No	(If No, explain in				
Are Vegetation, Soil, F	,,		,	-		Circumstances" pres	,	Х	No	
Are Vegetation, Soil, H						•				
-	,					explain any answers			oo ot	•
SUMMARY OF FINDINGS - Hydrophytic Vegetation Present?	Yes No	-	owing Sai	nping pon	it iocatio	iis, transects, ii	<u>iiportant i</u>	eature	35, eu	٠.
Hydric Soil Present?	Yes No			Sampled Area						
Wetland Hydrology Present?		$\begin{array}{c c} X & X \\ \hline X & X \end{array}$	within a	a Wetland?		Yes	No X	_		
Remarks:	103									
Point taken in upland swale that con	veys storm runoff	from I-29	and perhaps	s at times, floo	d water fron	n east of I-29.				
VEGETATION — Use scientifi	c names of pla	ants.	Absolute % Cover	Dominant Species	Indicator Status	Deminence Test	Markabaati			
Tree Stratum			70 0010.	<u> </u>	<u></u>	Number of Domin				
						That Are OBL, FA			1	(A)
Shrub Stratum						Total Number of F	Daminant			
Herb Stratum (Plot size:	<u>6 Ft</u>)		0.5	V	FACIL	Total Number of E Species Across al			2	(B)
Bromus inermis Poa pratensis				Y	FACU FAC					_ ` ′
·			100	=Total Cover	170	Percent of Domina That Are OBL, FA		: —	50.0%	_ (A/B)
Vine Stratum						Prevalence Index	k Workshee	t:		
						Total % Cove	r of:	Multip	ply by:	
						OBL species	0	x 1 =	0	
						FACW species	0	x 2 =	0	
						FAC species	35	x 3 =	105	
						FACU species	65	x 4 =	260	
						UPL species	0	x 5 =	0	
						Column Totals:	100	(A)	365	(B)
							Index = B/A=	 =	3.65	
						Hydrophytic Vege			_4:	
						Rapid Test fo	, , ,	: vegeta	ation	
						Dominance To				
						Prevalence In				
						Morphologica data in Rema Problematic H	rks or on a s	eparate	sheet)	Ü
						Indicators of hydr		Ū	,	. /
						be present, unles				,,
						Hydrophytic Vegetation Prese	ent? Yes		No	X
Remarks: (Include photo numbers h Hydrophytic vegetation is not preser		ate sheet.))							

SOIL Sampling Point: 01bU

Profile Descr	iption: (De		depth nee	eded to docume			confirm	the absence of Indicators.)	
Depth	Colo	Matrix	0/	Calar (maist)	Redox Fe		100?	Texture	Domorko
(inches)	-	or (moist)		Color (moist)		Type	Loc ²		Remarks
0 to 2 2 to 8	10YR 10YR	3 / 1 5 / 4	100					SANDY LOAM SANDY LOAM	Gravelly
				ced Martix, CS=	Covered	r Coatod	Sand Crai		
Type. C-Con	centration,	D-Debletion	, KWI-Keuu	ced Martix, Co-	Covered o	Coaled	Sand Grai	ns Location. FE-Fore Limity,	IVI-IVIAUIX.
Thick Dark	1) edon (A2) c (A3) Sulfide (A4) ayers (A5) (A10) elow Dark Su Surface (A12 ky Mineral (S y Peat or Pea ive Layer ravel es): 8	2) 1) t (S3) (if observe	() () () () ()	Sandy Gleyed Sandy Redox (Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matri: Redox Dark Su Depleted Dark Redox Depress	(S5) (S6) Mineral (F1) Matrix (F2) ((F3) Inface (F6) Surface (F7			Indicators for Problematic Hy Coast Prairie Redox (A16) Iron-Manganese Masses (F12) Dark Surface (S7) Very Shallow Dark Surface (TF-Other (Explain in Remarks) Indicators of hydrophytic vegetal wetland hydrology must be presend disturbed or problematic Hydric Soil Present? Yes	tion and nt, unless
HYDROLOG Wetland Hyd Primary Indic	lrology Ind		s required;	check all that ap	ply)			Secondary Indicators (mini	mum of two required)
Drift Deposi Algal Mat of Iron Deposi Inundation	Table (A2) (A3) (as (B1) (Deposits (B2) (as (B3) (as (B4) (beta) (beta) (beta) (continue) (continue	rial Imagery (B cave Surf. (B8	,	Aquatic Fat True Aquat Hydrogen S Oxidized RI Presence o Recent Iron Thin Muck Gauge or V	ned Leaves Ina (B13) In Plants	(C1) along Livin ron (C4) in Plowed S)		Surface Soil Cracks Drainage Patterns (B Dry-Season Water T Crayfish Burrows (C8 Saturation Visible on Stunted or Stressed Geomorphic Position FAC-Neutral Test (D	10) able (C2) 3) Aerial Imag.(C9) Plants (D1) 1 (D2)
Aerial Imagery	Present? Present? esent?	Yes Yes Yes eam gauge, mo	No	Dep	th (inches): th (inches): th (inches): rious inspec	tions), if av	ailable:	Wetland Hydrology Present?	Yes No_X_
Remarks: Wetland hydrol	ogy indicator	s are lacking.							

	eet South) Interchange	City/Count	y: Brookin		<u> </u>	npling Date:		20	
Applicant/Owner: SDDOT	O - Millio Marrows	L		State	-	npling Point:		0)4/	
Investigators: Kendall VandeKamp	·	ny			wnship, Range S			9W	
Landform (hillslope, terrace, etc.):	Fill Slope	1	00.70055005	Local Rei	lief (concave, conve	· —	onvex		
	1.2824094	_	96.76255635		Datum: NAI				
	n, 0 to 2 percent slopes, r				NWI Classification				
Are climatic / hydrologic conditions on the	, ·	•	Yes X	No	(If No, explain i	,	. V	Na	
Are Vegetation, Soil, Hyo Are Vegetation, Soil, Hyo			,		Circumstances" pre			No	
					explain any answer				
SUMMARY OF FINDINGS - At	_	owing sam	pling poir	nt locatio	ns, transects, i	mportant	feature	es, etc).
	Yes X No	Is the Sa	mpled Area						
Watland Hydrology Procent?	Yes No X	within a	Wetland?		Yes	No X			
	Yes No X								
Remarks: Sampling point taken adjacent to Wetl	and 1b.								
VEGETATION Use scientific	names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominanaa Taa	4 \Movkoboo	4.		
Tree Stratum		70 00 101	Opocioo	<u> </u>	Dominance Tes Number of Domi				
Shrub Stratum					That Are OBL, F			1	(A)
<u></u>	C F4 \				Total Number of	Dominant			
Herb Stratum (Plot size: _6 Poa pratensis	<u> </u>	100	Y	FAC	Species Across a			1	(B)
- Su pratoriole		100	=Total Cover						_
Vine Stratum			_ 10101 00101		Percent of Domir That Are OBL, F.			100.0%	_ (A/B)
					Prevalence Inde	x Workshe	et:		
					Total % Cov	er of:	Multip	oly by:	
					OBL species	0	_ x 1 =	0	
					FACW species	0	x 2 =	0	
					FAC species	100	x 3 =	300	
					FACU species	0	x 4 =	0	
					UPL species	0	x 5 =	0	
					Column Totals:	100	(A)	300	(B)
					Prevalence	e Index = B/A	<i>l</i> =	3.00	
					Hydrophytic Veg	etation Indi	cators:		
					Rapid Test fo	or Hydrophy	tic Vegeta	ation	
					X Dominance	Test > 50%			
					X Prevalence I	ndex ≤ 3.0			
					Morphologica data in Rema				orting
					Problematic	Hydrophytic	Vegetatio	on (Exp	plain)
					Indicators of hyd be present, unle				y must
					Hydrophytic Vegetation Pres		X	No	
Remarks: (Include photo numbers here Hydrophytic vegetation is present.	or on a separate sheet.)	1							_

SOIL Sampling Point: 01U

Pro	file	Descri	ption: (Des		depth ne	eded to docum			r confirm	the absence of Indicators.)	
	Dep		Color	Matrix (moist)	%	Color (moist	Redox Fea		1 Loc ²	Texture	Remarks
_	(inch	<u> </u>		,		Color (moist) 70	туре	LOC 2		Remarks
0		3	10YR	3/1	100					SILTY CLAY LOAM SILTY CLAY LOAM	0
3		18	10YR	3/1	70						Gravelly - road fill
3		18 18	10YR 10YR	5/3	15 15					SILTY CLAY LOAM SILTY CLAY LOAM	Gravelly - road fill Gravelly - road fill
_						uced Martix, CS=	-Covered o	Contod	Sand Cr		
_				л-Беріспоп, ———————————————————————————————————	T (IVI – I Ved	uced Martix, CO-	-covered of	Coaled	Sand Or		
Ну			ndicators:			Candy Clayed	Matrix (C4)			Indicators for Problema	atic Hydric Soils: 3
		osol (A1	,			Sandy Gleyed				Coast Prairie Redox (A	16)
			don (A2)			Sandy Redox	` ,			Iron-Manganese Masse	s (F12)
		k Histic	` '			Stripped Matri				Dark Surface (S7)	
Н	-	_	ulfide (A4)			Loamy Mucky	Mineral (F1)			Very Shallow Dark Surf	ace (TF12)
	Stra	tified La	yers (A5)			Loamy Gleyed	Matrix (F2)			Other (Explain in Rema	,
	2 cn	n Muck	(A10)			Depleted Matr	ix (F3)			— Other (Explain in Kema	insj
	Dep	leted Be	elow Dark Surf	face (A11)		Redox Dark S	urface (F6)				
	Thic	k Dark	Surface (A12)			Depleted Dark	Surface (F7)			3 Indicators of budroub, ti	
	San	dy Mucł	xy Mineral (S1)		Redox Depres	sions (F8)			Indicators of hydrophytic wetland hydrology must b	
	5 cn	n Mucky	Peat or Peat	(S3)						disturbed or pro	
No	narks hydr	ic soil ir	dicators prese	ent.						Hydric Soil Present?	Yes No X
		LOG		4							
		-	rology Indi ators (minim		required	; check all that a	oply)			Secondary Indicator	s (minimum of two required)
	Surf	ace Wa	ter (A1)			Water-Sta	ined Leaves (B9)		Surface Soil	Cracks (B6)
	High	n Water	Table (A2)			Aquatic Fa	una (B13)			Drainage Pa	tterns (B10)
	Satu	ıration (A3)			True Aqua	tic Plants (B1	4)		Dry-Season	Water Table (C2)
	Wat	er Mark	s (B1)			, ,	Sulfide Odor (,		Crayfish Bur	` '
			eposits (B2)				hizospheres		ng Roots (0	· —	isible on Aerial Imag.(C9)
		Deposi	` '				of Reduced Ir	. ,			tressed Plants (D1)
	_		Crust (B4)				n Reduction in		Soils (C6)	_	Position (D2)
		Deposit	` '	al Imagan, /D7	`		Surface (C7)			☐ FAC-Neutral	Test (D5)
H				al Imagery (B7 ave Surf. (B8))		Well Data (D9 blain in Rema	•			
II7*				ave oun. (bo)		Other (Exp	nam in recina	113)			
			ations:								
			r Present?	Yes			oth (inches):			-	
		tion Pre	Present?	Yes			oth (inches):	_		Wetland Hydrology Pres	sent? Yes No_X_
				Yes			oth (inches):	> "	-1-1-1	-	
			ed Data (strea	am gauge, mor	nitoring wel	l, aerial photos, pre	vious inspecti	ons), it av	allable:		
Aer	ıaı IM	agery									
	narks wetl		rology indicate	ors present.							

Project/Site: I-29 Exit 130 (20th S	Street South) Interchange	City/Coun	ty: Brookin	gs / Brookin State	<u> </u>	ling Date: _5		
Investigators: Kendall VandeKan	np Caitlin Murp	phy			wnship, Range S 31	-	R 49W	
Landform (hillslope, terrace, etc.):	Toe Slope	,			lief (concave, convex			
Slope(%): 1 Lat:	44.28244001	Long:	-96.76258618		Datum: NAD	1983		
Soil Map Unit Name: Fordtown lo	am, 0 to 2 percent slopes,	rarely flooded			NWI Classification:	N/A		
Are climatic / hydrologic conditions or	n the site typical for this tim	e of year?	Yes X	No	(If No, explain in	Remarks)		
Are Vegetation, Soil, F	lydrology, significan	tly disturbed?	· A	re "Normal	Circumstances" pres	ent? Yes	X No	
Are Vegetation, Soil, F				(If needed	explain any answers	in Remarks)		
SUMMARY OF FINDINGS -	Δttach a site man sh	owing san	nnling noir		-			•
Hydrophytic Vegetation Present?	Yes X No	ownig our	iipiiiig poii	it iooutio	110, 1141100010, 111	iportant it	rataroo, ott	J.
Hydric Soil Present?	Yes X No		ampled Area					
Wetland Hydrology Present?	Yes X No	within a	a Wetland?		Yes X	No	-	
Remarks:								
Sampling point taken within Wetland	l 1b.							
		Absolute	Dominant	Indicator				
VEGETATION Use scientifi	c names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test \	Norksheet:		
Tree Stratum					Number of Domina	ant Species		(4)
Shrub Stratum					That Are OBL, FA	CW, or FAC:	2	_ (A)
Herb Stratum (Plot size:	6 Ft)				Total Number of D	ominant		
Typha angustifolia		60	Υ	OBL	Species Across all	Strata:	2	(B)
Phalaris arundinacea		40	Y	FACW	Percent of Domina	nt Species		
		100	=Total Cover		That Are OBL, FAC		100.0%	_ (A/B)
Vine Stratum					Prevalence Index	Worksheet:		
					Total % Cover		Multiply by:	
					OBL species		x 1 = 60	
					FACW species	40	x 2 = 80	
					FAC species	0	x 3 = 0	
					FACU species	0	x 4 = 0	
					UPL species	0	x 5 = 0	
					Column Totals:	100 ((A) 140	(B)
					Prevalence I	ndex = R/Δ=	1.40	
					Hydrophytic Veget			
					X Rapid Test for		vegetation	
					X Dominance Te			
					X Prevalence Inc		(Provide cupr	ortina
					Morphological data in Remark			orung
					Problematic H	ydrophytic Ve	getation (Ex	plain)
					Indicators of hydri be present, unless			gy must
					Hydrophytic Vegetation Prese	nt? Yes	X No	
Remarks: (Include photo numbers he Hydrophytic vegetation is dominant.	ere or on a separate sheet.)			1	_		

SOIL Sampling Point: 01W

Pro	ofile	Desc	ription: (Des		depth ne	eded to docum			confirm	the absence of Indicators.)		
	Dep		Colo	Matrix r (moist)	%	Color (moist)	Redox Fe	atures Type ¹	Loc ²	Texture	Remar	·ks
0	to		10YR	2/1	100		<u> </u>			SILTY CLAY LOAM	_	
8	to		10YR	3/1	85	10YR 5/2	10	D	M	SILTY CLAY LOAM	Gravelly	
8		18	10111	/		10YR 4/6	5	C	M	CLAY LOAM	Graveny	
18		24	10YR	5/1	50	1011(4/0			IVI	CLAY LOAM	-	
18			101R	5/2	45	7.5YR 3/4	5	С	M	CLAY LOAM		
						uced Martix, CS=					, M=Matrix.	
Ну	dric	Soil 1	Indicators:							Indicators for Problematic H	vdric Soils:	3
	His	tosol (A	(1)			Sandy Gleyed	Matrix (S4)				y di it soiis.	
			edon (A2)			Sandy Redox ((S5)			Coast Prairie Redox (A16)		
		ck Histi	, ,			Stripped Matrix	,			Iron-Manganese Masses (F12)		
			Sulfide (A4)			Loamy Mucky I	` '			Dark Surface (S7)		
		•	ayers (A5)			Loamy Gleyed				Very Shallow Dark Surface (TF	F12)	
F			, , ,			_				Other (Explain in Remarks)		
		n Muck	, ,	5 (844)		Depleted Matri	` ,					
			Below Dark Sur	` '		Redox Dark Su	, ,					
✓			Surface (A12)	,		Depleted Dark	, ,			Indicators of hydrophytic vegeta	ation and	
		•	cky Mineral (S1 xy Peat or Peat	•		Redox Depress	sions (F8)			wetland hydrology must be prese disturbed or problemati	ent, unless	
_				if observed	4).					alotatoo of proportion	<u> </u>	
			iive Layei (ii observed	<i>a)</i> .							
	Typ	oth (incl	hes).							Hydric Soil Present? Y	'es X	No
Hy		soil pre										
		-	drology Indicators (minim		required;	check all that ap	(ylqc			Secondary Indicators (min	imum of two I	required)
	Sur	face W	ater (A1)			Water-Stai	ned Leaves (B9)		Surface Soil Cracks		, ,
			r Table (A2)			Aquatic Fa	,	,,		☐ Drainage Patterns (I		
	Sat	uration	(A3)			True Aquat	ic Plants (B1	4)		Dry-Season Water	Γable (C2)	
	Wa	ter Mar	ks (B1)			☐ Hydrogen S	Sulfide Odor ((C1)		Crayfish Burrows (C	(8)	
	Sec	liment I	Deposits (B2)			Oxidized R	hizospheres	along Livin	g Roots (C	3) Saturation Visible or	n Aerial Imag.(0	C9)
	Drif	t Depos	sits (B3)			Presence of	of Reduced Ir	on (C4)		Stunted or Stressed	Plants (D1)	
	Alg	al Mat d	or Crust (B4)			Recent Iron	Reduction in	n Plowed S	ioils (C6)	✓ Geomorphic Positio	n (D2)	
	Iron	Depos	sits (B5)			Thin Muck	Surface (C7))		▼ FAC-Neutral Test (I	05)	
				ial Imagery (B7	')		Well Data (D9	•				
	Spa	rsely V	egetated Cond	cave Surf. (B8)		U Other (Exp	lain in Rema	rks)				
<u>Fie</u>	eld C)bserv	ations:									
;	Surfa	ce Wat	er Present?	Yes	N	o X Dep	th (inches):					
			Present?	Yes	N		th (inches):			Wednesday	V 55	N.
;	Satur	ation P	resent?	Yes	N	o X Dep	th (inches):			Wetland Hydrology Present?	Yes X	_ NO
		Recor	rded Data (stre	am gauge, moi	nitoring well	, aerial photos, prev	vious inspect	ions), if ava	ailable:			
	marks		ondary wetland	hydrology indic	cators met.							

Project/Site: I-29 Exit 130 (20th Street South) Interchange	City/Coun	ty: Brookin	gs / Brookin	gs County Sam	pling Date:	5/12/20)20	
Applicant/Owner: SDDOT			State	: SD Sam	pling Point:	02U		
Investigators: Kendall VandeKamp Caitlin Murp	hy		Section, To	wnship, Range S 6	T 109N	l R	49W	
Landform (hillslope, terrace, etc.): Floodplain			Local Re	ief (concave, conve	x, none): Co	ncave		
Slope(%): 2 Lat: 44.2758518	Long:	-96.75881459		Datum: NAD	1983			
Soil Map Unit Name: Fordtown, rarely flooded-Spottswood, o	cassionally f	looded, loams	, 0 to 2	NWI Classification:	N/A			
Are climatic / hydrologic conditions on the site typical for this time	e of year?	Yes X	No	(If No, explain ir	Remarks)			
Are Vegetation, Soil, Hydrology, significant	ly disturbed?	Д	re "Normal	Circumstances" pre	sent? Yes	X	No	
Are Vegetation, Soil, Hydrology, naturally p	roblematic?		(If needed,	explain any answers	s in Remarks	.)		
SUMMARY OF FINDINGS - Attach a site map she	owing sar		,			,	es, etc	C .
Hydrophytic Vegetation Present? Yes X No	la dha O	amandad Anaa						
Hydric Soil Present? YesNo _X		ampled Area Wetland?		Yes	No X			
Wetland Hydrology Present? YesNo _X						_		
Remarks: Upland sampling point taken adjacent to Wetland 2.								
VEGETATION — Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Daminana Taat	Mankahant			
<u>Tree Stratum</u> (Plot size: 30 Ft)	70 00101	<u> </u>	Otatao	Dominance Test				
Populus deltoides	10	Υ	FAC	Number of Domir That Are OBL, FA		:	3	(A)
	10	=Total Cover		Tatal Niveshau of F	Damain and			
Shrub Stratum				Total Number of I Species Across a			4	(B)
Herb Stratum (Plot size: 6 Ft)								_ ` ′
Bromus inermis	35	Υ	FACU	Percent of Domin That Are OBL, FA			75.0%	(A/B)
Poa pratensis	20	Υ Υ	FAC	That / ii o obe, i /				
Phalaris arundinacea	15	Y	FACW	Prevalence Index	x Workshee	:		
	70	=Total Cover		Total % Cove			iply by:	
Vine Stratum				OBL species	0	x1=	0	
				FACW species	15	x 2 =	30	
				FAC species	30	x 3 =	90	
				FACU species	35	x 4 =	140	
				UPL species	0	x 5 =	0	
				Column Totals:	80	(A)	260	(B)
				Prevalence	Index = B/A	=	3.25	
				Hydrophytic Vege	etation Indic	ators:		
				Rapid Test fo	r Hydrophytic	: Veget	ation	
				X Dominance T	est > 50%			
				Prevalence Ir	ndex ≤ 3.0			
				Morphologica				orting
				Problematic I	- Hydrophytic \	∕egetati	ion (Ex	plain)
				Indicators of hyd be present, unles				y must
				Hydrophytic Vegetation Prese	ent? Yes	х	No	
Remarks: (Include photo numbers here or on a separate sheet.)		evalence inde	v It annear	s likely that cottowor	nd trees were	nlante	d due to	

Vegetation is a weak wetland indicator due to dominance test met but not prevalence index. It appears likely that cottowood trees were planted due to spacing.

SOIL Sampling Point: 02U

Profile Descr	iption: (Des		depth nee				confirm t	the absence of Indicators.)			
Depth	Calar	Matrix	0/		edox Fea		1 2	Tantona	D = == = ==	les.	
(inches)		(moist)	<u>%</u>	Color (moist)		Type ¹	LOC 2	Texture	Remark	(S	
0 to 8	10YR	3/1	100					SANDY LOAM			
8 to 15	10YR	4/3	100				 ;	SAND	gravelly		
Type: C=Con	centration, L	D=Depletion,	RM=Reduc	ced Martix, CS=Co	vered or	Coated	Sand Grai	ns. ² Location: PL=Pore Lining,	M=Matrix.		
Thick Dark Sandy Mucl	edon (A2) (A3) Sulfide (A4) Suyers (A5) (A10) Sulface (A12) Ky Mineral (S1) (Peat or Peat) (S3)	[[[[[[Sandy Gleyed Mat Sandy Redox (S5) Stripped Matrix (Si Loamy Mucky Mind Loamy Gleyed Matrix (Fi Redox Dark Surfact Depleted Dark Surfact Redox Depression	6) eral (F1) trix (F2) (3) ce (F6) rface (F7)			Indicators for Problematic Hy Coast Prairie Redox (A16) Iron-Manganese Masses (F12) Dark Surface (S7) Very Shallow Dark Surface (TF- Other (Explain in Remarks) Indicators of hydrophytic vegetal wetland hydrology must be preser disturbed or problematic Hydric Soil Present?	tion and nt, unless	No X	
Surface Wa	Irology Indi ators (minim ater (A1) Table (A2) A3)		s required; (check all that apply Water-Stained Aquatic Fauna True Aquatic P	Leaves (I (B13) Plants (B14	1)		Secondary Indicators (minir Surface Soil Cracks Drainage Patterns (B Dry-Season Water To	(B6) 310) able (C2)	equired)	_
Drift Deposi Algal Mat of Iron Deposi Inundation	peposits (B2) its (B3) r Crust (B4)			Oxidized Rhizo Presence of Re Recent Iron Re Thin Muck Sur Gauge or Well Other (Explain	ospheres a educed Iro eduction in face (C7) I Data (D9	along Living on (C4) Plowed S			Aerial Imag.(C Plants (D1) ı (D2)	9)	
Surface Water Table I Saturation Pro Describe Record Aerial Imagery	er Present? Present? esent?	Yes Yes Yes am gauge, mo	No No No	X Depth (inches): inches): inches): is inspection	ons), if ava	nilable:	Wetland Hydrology Present?	Yes	No_X_	
Remarks: No wetland hyd	lrology indicate	ors present.									

	Street South) Interchange	City/Coun	ity: Brookin	gs / Brookin	ngs County Sampli	ing Date:	5/12/202	20	
Applicant/Owner: SDDOT				State	e: SD Sampl	ling Point:			
Investigators: Kendall VandeKar	mp Caitlin Murp	hy			wnship, Range S 6	T 109N		9W	
Landform (hillslope, terrace, etc.):	Pond			Local Rel	lief (concave, convex,	none): Co	ncave		
Slope(%): 1 Lat:	44.28148112	Long:	-96.75933649		Datum: NAD 1	983			
Soil Map Unit Name: Miscellaned	ous water areas				NWI Classification:	PABFx			
Are climatic / hydrologic conditions o	n the site typical for this time	e of year?	Yes X	No	(If No, explain in F	Remarks)			
Are Vegetation, Soil, I	-lydrology, significant	tly disturbed?	?	re "Normal	Circumstances" prese	ent? Yes	X	No	
Are Vegetation, Soil, I	Hydrology, naturally p	roblematic?		(If needed,	explain any answers i	n Remarks.	.)		
SUMMARY OF FINDINGS -	Attach a site map sho	owing san	npling poir	nt locatio	ns, transects, im	portant f	eature	s, etc) .
Hydrophytic Vegetation Present?	Yes X No								
Hydric Soil Present?	Yes X No		ampled Area a Wetland?		Yes X N	No			
Wetland Hydrology Present?	Yes X No				165 X		_		
Remarks:									
Sampling point taken within Wetland	d 02 which is a lacustrine op	en water wet	tland with an a	pproximate	4-foot-wide fringe wetl	land.			
VEGETATION Use scientifi	ic names of plants.	Absolute % Cover	<u>Dominant</u> <u>Species</u>	Indicator Status	Dominance Test W	Vorksheet:			
<u>Tree Stratum</u> (Plot size:	. <u>30 Ft</u>)				Number of Domina			2	(A)
Populus deltoides		15	Y	FAC	That Are OBL, FAC	JW, or FAC	:		_ (^)
		15	=Total Cover		Total Number of Do				
Shrub Stratum					Species Across all	Strata:		2	(B)
Herb Stratum (Plot size:	<u>6 Ft</u>)				Percent of Dominar	nt Species	1	00.0%	(A/B)
Phalaris arundinacea			_ <u>Y</u>	FACW	That Are OBL, FAC	W, or FAC:		00.076	(A/D)
Vine Stratum		10	=Total Cover		Prevalence Index \	Worksheet	:		
vine Stratum					Total % Cover	of:	Multip	ly by:	
					OBL species	0	x 1 =	0	
					FACW species	10	x 2 =	20	
					FAC species	15	x 3 =	45	
					FACU species	0	x 4 =	0	
					UPL species	0	x 5 =	0	
					Column Totals:	25	(A)	65	(B)
					Prevalence In		_	2.60	
					Hydrophytic Vegeta			tion	
					Rapid Test for I		vegeta	tion	
					X Dominance Tes				
					X Prevalence Inde				
					Morphological Adda in Remark Problematic Hy	s or on a se	eparate s	sheet)	
					Indicators of hydric	soil and we	etland hy	ydrolog	,
					Hydrophytic Vegetation Presen	42			
Remarks: (Include photo numbers h Hydrophytic vegetation is dominant.)			- ogotution i resent	it! Yes _	<u> </u>	No	

SOIL Sampling Point: 02W

Profile Description: (Description)	Matrix	aepın	neede		Redox Fe		COMMITM	ine ab	sence of indicators.)	
(inches) Color (r	moist)	%	-	Color (moist)	%	Type ¹	Loc ²		Texture	Remarks
0 to 2 10YR	2/1	100								Organic
2 to 10 10YR	2/1	100						SAND)	Gravel and organic muck
¹ Type: C=Concentration, D=	Depletion,	RM=R	educed	I Martix, CS=C	overed o	r Coated	Sand Grai	ns.	² Location: PL=Pore Lining,	M=Matrix.
Hydric Soil Indicators:								Ir	dicators for Problematic Hy	dric Soils: 3
Histosol (A1)				Sandy Gleyed Ma	atrix (S4)			_	Coast Prairie Redox (A16)	
Histic Epipedon (A2)				Sandy Redox (S	5)				Iron-Manganese Masses (F12)	
☐ Black Histic (A3)				Stripped Matrix (S6)				Dark Surface (S7)	
Hydrogen Sulfide (A4)				Loamy Mucky Mi	neral (F1)			[_ ` ` /	40)
Stratified Layers (A5)				Loamy Gleyed M	atrix (F2)			[Very Shallow Dark Surface (TF	12)
✓ 2 cm Muck (A10)				Depleted Matrix ((F3)			L	Other (Explain in Remarks)	
Depleted Below Dark Surface	e (A11)			Redox Dark Surf	ace (F6)					
☐ Thick Dark Surface (A12)				Depleted Dark S	urface (F7))			2	
Sandy Mucky Mineral (S1)				Redox Depression	ons (F8)				Indicators of hydrophytic vegeta wetland hydrology must be prese	
5 cm Mucky Peat or Peat (S	3)								disturbed or problematic	
☐ Restrictive Layer (if	observed	d):								
Туре:								Llvc	Iric Soil Present? Y	es X No
Depth (inches):								пус	inc 3011 Fresent:	- NO
HYDROLOGY Wetland Hydrology Indica Primary Indicators (minimur		requir	ed; che	ck all that app	ly)				Secondary Indicators (mini	mum of two required)
✓ Surface Water (A1)				Water-Staine	d Leaves ((B9)			Surface Soil Cracks	(B6)
✓ High Water Table (A2)				Aquatic Faun	a (B13)				Drainage Patterns (E	310)
Saturation (A3)				True Aquatic	Plants (B1	4)			Dry-Season Water T	` '
Water Marks (B1)				Hydrogen Su		. ,			Crayfish Burrows (C	,
Sediment Deposits (B2)			Ĺ	Oxidized Rhiz		-	g Roots (C3	3)	Saturation Visible on	
Drift Deposits (B3)			L	Presence of F		` ')-:I- (OC)		Stunted or Stressed	, ,
☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5)			[oolis (Cb)		✓ Geomorphic Position✓ FAC-Neutral Test (D	` '
Inundation Visible on Aerial	Imagery (B7)	[Gauge or We	` '				▼ 1 AO-Neutial Test (D	3)
Sparsely Vegetated Concav		,		Other (Explai		•				
Field Observations:										
Surface Water Present?	Yes	X	No	Depth	(inches):		4			
Water Table Present?	Yes	X	No		(inches):		0	100	(atland I hadnale B	Van V Na
Saturation Present?	Yes	X	No	Depth	(inches):		0	W	etland Hydrology Present?	Yes <u>X</u> No
Describe Recorded Data (stream Aerial Imagery	gauge, mor	nitoring v	vell, aeri	ial photos, previo	us inspect	ions), if ava	ailable:			
Remarks:										
Primary and secondary wetland	hydrology in	dicators	present	t.						

Project/Site: I-29 Exit 130 (20th Street South) Interchange	City/Count	ty: Brookin	gs / Brookin		pling Date:		20	
Applicant/Owner: SDDOT			State	· 	npling Point			
Investigators: Kendall VandeKamp Caitlin Murpl	ny			wnship, Range S 6			9W	
Landform (hillslope, terrace, etc.): Floodplain			Local Rel	lief (concave, conve	x, none): _(Concave		
Slope(%): 3 Lat: 44.275859	Long:	96.758823		Datum: NAD	1983			
Soil Map Unit Name: Fordtown, rarely flooded-Spottswood, o	cassionally fl	looded, loams	, 0 to 2	NWI Classification:	N/A			
Are climatic / hydrologic conditions on the site typical for this time	e of year?	Yes X	No	(If No, explain ir	n Remarks)			
Are Vegetation, Soil, Hydrology, significant	ly disturbed?	-	re "Normal	 Circumstances" pre	sent? Ye	s X	No	
Are Vegetation, Soil, Hydrology, naturally p	roblematic?		(If needed	explain any answers	s in Remarl	ks)	_	
SUMMARY OF FINDINGS - Attach a site map sho	owina san	anlina noir					ne otc	
Hydrophytic Vegetation Present? Yes No X	Jwilly Sali	iipiiiig poii	it iocatio	is, transects, ii	пропап	. reature	;5, etc	,.
		ampled Area						
Wotland Hydrology Propent?	within a	Wetland?		Yes	No X			
Remarks:								
Sampling point located adjacent to the southern end of Wetland	3.							
VEGETATION — Use scientific names of plants.	Absolute <u>% Cover</u>	Dominant Species	Indicator Status	Dominance Test	Workshee	it:		
Tree Stratum (Plot size: <u>30 Ft</u>)				Number of Domin			2	(A)
Pinus Ponderosa	10	Y	UPL	That Are OBL, F	ACW, or FA	.C:		_ (/\)
Ulmus americana	10	Y	FACW	Total Number of I	Dominant			
Juniperus virginiana	5	N	FACU	Species Across a	ıll Strata:		4	(B)
	25	_=Total Cover		Dancant of Dancin		_		_
Shrub Stratum				Percent of Domin That Are OBL, FA			50.0%	(A/B)
Herb Stratum (Plot size: 6 Ft)								
Bromus inermis	70	Υ	FACU	Prevalence Inde		et:		
Phalaris arundinacea	30	Y	FACW	Total % Cove		Multip	, ,	
	100	_=Total Cover		OBL species	0	x 1 =	0	
Vine Stratum				FACW species	40	x 2 =	80	
				FAC species	0	x 3 =	0	
				FACU species	75	x 4 =	300	
				UPL species	10	x 5 =	50	
				Column Totals:	125	(A)	430	(B)
				Prevalence	Index = R/		3.44	
							J.44	
				Hydrophytic Vege	etation Indi	icators:		
				Rapid Test fo	or Hydrophy	tic Vegeta	tion	
				Dominance T	est > 50%			
				Prevalence Ir	ndex ≤ 3.0			
				Morphologica data in Rema	arks or on a	separate	sheet)	
				Problematic I		ŭ		,
				Indicators of hyd be present, unles				y must
Remarks: (Include photo numbers here or on a separate sheet.)	<u> </u>			Hydrophytic Vegetation Prese		s!	No X	(
Hydrophytic vegetation is not present.								

SOIL Sampling Point: 03U

	iption: (Des		depth nee				confirm t	the absence of Indicators.)		
Depth (inches)	Color	Matrix (moist)	%	Color (moist)	edox Fea %		Loc ²	Texture	Remarks	
0 to 13	10YR	2/1	100	Odioi (moiot)		1 9 00		SANDY LOAM	Tomano	
13 to 22	101R	4/2	100					SANDY LOAM		
				ced Martix, CS=Co	overed or	Coated	Sand Grai		M=Matrix.	
Hydric Soil I	ndicators:		_					Indicators for Problematic Hyd	dric Soils: 3	
Histosol (A1	1)			Sandy Gleyed Ma	trix (S4)			Coast Prairie Redox (A16)		
Histic Epipe	edon (A2)			Sandy Redox (S5)			☐ Iron-Manganese Masses (F12)		
Black Histic	(A3)			Stripped Matrix (S	66)			Dark Surface (S7)		
Hydrogen S	Sulfide (A4)			Loamy Mucky Min	eral (F1)			Very Shallow Dark Surface (TF1	2)	
Stratified La	ayers (A5)			Loamy Gleyed Ma	atrix (F2)			Other (Explain in Remarks)	_,	
2 cm Muck	(A10)			Depleted Matrix (F	=3)			Other (Explain in Nemarks)		
Depleted Be	elow Dark Sur	face (A11)		Redox Dark Surfa	ice (F6)					
	Surface (A12)			Depleted Dark Su	rface (F7)			3 Indicators of hydrophytic vegetati	ion and	
Sandy Mucl	ky Mineral (S1)		Redox Depression	ns (F8)			wetland hydrology must be presen		
5 cm Mucky	/ Peat or Peat	(S3)						disturbed or problematic.		
Restricti	ve Layer (if observe	d):							
Туре:								Hydric Soil Present? Ye	s No	Х
Depth (inch	es):							1		
Remarks: Ho hydric indica	ators present.									
HYDROLOG	V									
Wetland Hyd		cators.								
			s required; c	check all that apply	y)			Secondary Indicators (minin	num of two req	luired)
Surface Wa	iter (A1)		·	Water-Stained	d Leaves (E	39)		Surface Soil Cracks (B6)	
High Water	` ,			Aquatic Fauna	(B13)	•		Drainage Patterns (B	10)	
Saturation (A3)			True Aquatic F	Plants (B14	1)		Dry-Season Water Ta	ible (C2)	
Water Mark	s (B1)			Hydrogen Sulf	•	,		Crayfish Burrows (C8)	
	eposits (B2)			Oxidized Rhize			g Roots (C3			
Drift Deposi				Presence of R		, ,		Stunted or Stressed F	, ,	
Algal Mat or				Recent Iron Re		Plowed S	soils (C6)	Geomorphic Position	. ,	
Iron Deposi	เร (ฮอ) Visible on Aeri	al Imagery (R	7)	☐ Thin Muck Su☐ Gauge or Wel	` ')		FAC-Neutral Test (D5	·)	
	egetated Conc		•	Other (Explain	,	,				
Field Observa						,				
Surface Wate		Yes	No	X Depth ((inches):					
Water Table I	Present?	Yes	No		(inches):					
Saturation Pre	esent?	Yes	No	_X_ Depth ((inches):			Wetland Hydrology Present?	Yes N	10_X_
Describe Record	led Data (strea	am gauge, mo	nitoring well, a	aerial photos, previou	us inspection	ons), if ava	ailable:			
aerial imagery										
Remarks:										
No wetland hyd	lrology indicate	ors present.								

Project/Site: I-29 Exit 130 (20th S	Street Sout	h) Interchange	City/Co	ounty: _	Brookin	gs / Brookin State	,		oling Date: _		020	
Investigators: Kendall VandeKar	mp	Caitlin Murp	hv				wnship, Rang	- '	T 109N		49W	
Landform (hillslope, terrace, etc.):		dplain	,				lief (concave,					
,	44.278544	•	I ona:	-96.7	75923036		•	NAD	· —			
		ed-Spottswood, c	_				NWI Classifi					
Are climatic / hydrologic conditions o				•		No						
, 0	,	•	,				`		Remarks)	V	NIa	
Are Vegetation, Soil, I	-	_	-		F	are Normai	Circumstance	es pres	ent? Yes		No	
Are Vegetation, Soil, I	Hydrology	, naturally p	problemation	C'?		(If needed,	explain any a	answers	in Remarks	.)		
SUMMARY OF FINDINGS -	Attach a	site map sh	owing s	ampli	ing poir	nt locatio	ns, transe	cts, in	nportant f	eatu	res, etc	.
Hydrophytic Vegetation Present?	Yes	X No	la tha	. Cama	lad Araa							
Hydric Soil Present?	Yes	X No		n a We	led Area		Yes	X	No			
Wetland Hydrology Present?	Yes	X No								_		
Remarks:												
Sampling point taken within Wetland beginning to establish on it suggests									des of the dit	ch with	n small tro	ees
VEGETATION Use scientifi	ic names	of plants.	Absolute % Cove		minant pecies	Indicator Status	Dominano	e Test \	Worksheet:			
Tree Stratum (Plot size	: 30 Ft)							ant Species		0	(4)
Acer saccharinum			10	0	Υ	FACW	That Are C	OBL, FA	CW, or FAC	=	3	(A)
			10	0=T	otal Cover		Total Num	ber of D	ominant			
Shrub Stratum							Species A	cross all	Strata:		3	(B)
Herb Stratum (Plot size	: 6 Ft)										_
Phalaris arundinacea		_ ′	70	0	Υ	FACW			ant Species CW, or FAC:	: _	100.0%	(A/B)
Spartina pectinata			30	10	Υ	FACW				· 		
			10	00 _{=T}	otal Cover		Prevalenc	e Index	Worksheet	:		
Vine Stratum							Total 9	% Cover	of:	Mult	tiply by:	
							OBL speci	es	0	x 1 =	0	
							FACW spe	ecies	110	x 2 =	220	
							FAC speci	es	0	x 3 =	0	
							FACU spe	ecies	0	x 4 =	0	
							UPL specie	es	0	x 5 =	0	
							Column To	otale:	110	(A)	220	(B)
									Index = B/A=	-` ′		
											2.00	
							Hydrophyti	ic Vege	tation Indica	ators:		
							X_Rapid	Test for	Hydrophytic	: Vege	tation	
							X _Domin	ance Te	est > 50%			
							X Preval	ence Ind	dex ≤ 3.0			
							data in	n Remar	Adaptations ks or on a se	eparate	e sheet)	
									ydrophytic V	Ū	` .	,
									ic soil and w s disturbed o			y must
							Hydro Vegetation		nt? Yes	х	No	
Remarks: (Include photo numbers h Hydrophytic vegetation is dominant.		separate sheet.))				•					

SOIL Sampling Point: 03W

Depth	iption: (Desc	Cribe to the Matrix	e deptn	need	led to do		t ne ind edox Fea		confirm	tne	absence of Indicators.)		
(inches)	Color	(moist)	%)	Color (n	noist)	%	Type ¹	Loc ²		Texture	Rem	narks
0 to 10	10YR	2/1	100						· 	SIL	T LOAM		
10 to 20	GLEY 1	5/1	100							SA	NDY CLAY LOAM		
¹ Type: C=Con	centration, D	=Depletio	n, RM=R	educe	ed Martix,	CS=C	overed or	Coated	Sand Gra	ains.	² Location: PL=Pore Lining,	M=Matrix	
Hydric Soil I					Sandy Gl	eyed Ma	trix (S4)				Indicators for Problematic Hyd Coast Prairie Redox (A16)	dric Soils	:: ³
Histic Epipe	` '				Sandy Re						Iron-Manganese Masses (F12)		
Hydrogen S	` '				Loamy M	•	•				Dark Surface (S7)		
Stratified La	` '				Loamy G	-					✓ Very Shallow Dark Surface (TF1✓ Other (Explain in Remarks)	2)	
2 cm Muck	(A10)				Depleted	Matrix (F	-3)				Other (Explain in Nemarks)		
	elow Dark Surfa Surface (A12)	ace (A11)			Redox Da		ce (F6) rface (F7)						
	ky Mineral (S1)				Redox De						Indicators of hydrophytic vegetati wetland hydrology must be presen		
5 cm Mucky	Peat or Peat ((S3)									disturbed or problematic.	,	
Type: Depth (inch	es):	f observ	ed):							н	lydric Soil Present? Ye	es X	No
HYDROLOG Wetland Hyd Primary Indic	lrology Indic		is requir	ed: ch	neck all th	nat apply	v)				Secondary Indicators (minin	num of tw	o required)
Surface Wa	•			,	Wate	r-Stained	Leaves (B9)		_	Surface Soil Cracks (B6)	. ,
✓ High Water						tic Fauna					Drainage Patterns (B	•	
Saturation (,						Plants (B1	,			Dry-Season Water Ta		
☐ Water Mark	, ,					•	ide Odor (D 1 (0)	١٥)	Crayfish Burrows (C8	,	· (CO)
Sediment D Drift Deposit	eposits (B2)						ospneres a educed Iro	-	g Roots (C	3)	Saturation Visible on Stunted or Stressed F		J.(C9)
Algal Mat o					\equiv			n Plowed S	Soils (C6)		Geomorphic Position	, ,	
Iron Deposi	. ,						rface (C7)		JOIIG (00)		FAC-Neutral Test (D5	,	
	Visible on Aeria	al Imagery (I	37)				I Data (D9					,	
	egetated Conca				Other	r (Explain	in Remar	ks)					
Field Observ	ations:												
Surface Wate	er Present?	Ye	s	No	X	Depth ((inches):						
Water Table I	Present?	Ye	s X	No		Depth ((inches):		12				
Saturation Pro	esent?	Ye	s <u>X</u>	No		Depth ((inches):		8		Wetland Hydrology Present?	Yes _	X_ No
Describe Record Aerial Imagery	ded Data (strea	m gauge, m	onitoring	well, a	erial photos	s, previou	us inspecti	ons), if ava	ailable:				
Remarks: Primary and se	condary wetlan	nd hydrology	indicators	s met.									

Project/Site: I-29 Exit 130 (20th Street South) Interchange	City/Cour	nty: Brookir	ngs / Brookir	ngs County Sa	mpling Date	: 5/12/20	020	
Applicant/Owner: SDDOT			State	e: SD Sa	ampling Poin	t: 04U		
Investigators: Kendall VandeKamp Caitlin Mur	phy		Section, To	wnship, Range S	6 T 10)9N R	49W	
Landform (hillslope, terrace, etc.): Floodplain			Local Re	lief (concave, conv	vex, none): _	Concave		
Slope(%): _ 1	Long:	-96.75923457	,	Datum: NA	AD 1983			
Soil Map Unit Name: Fordtown, rarely flooded-Spottswood,	ocassionally	flooded, loams	s, 0 to 2	NWI Classification	n: N/A			
Are climatic / hydrologic conditions on the site typical for this tin	ne of year?	Yes X	No	(If No, explain	in Remarks)		
Are Vegetation, Soil, Hydrology, significan	ntly disturbed	?	Are "Normal	Circumstances" p	resent? Y	es X	No _	
Are Vegetation, Soil, Hydrology, naturally	problematic?	•	(If needed,	explain any answe	ers in Rema	rks.)		
SUMMARY OF FINDINGS - Attach a site map sh	owing sa	mpling poi	nt locatio	ns, transects,	importan	ıt featuı	res, etc) .
Hydrophytic Vegetation Present? Yes X No	1- 41 6	Name at A						
Hydric Soil Present? YesNo _X		Sampled Area a Wetland?		Yes	No >			
Wetland Hydrology Present? YesNo _X					_ 110 _ /	<u>`</u>		
Remarks: Upland sampling point taken adjacent to Wetland 4.								
VEGETATION Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Daminanas Ta	a4 18/ a wka b a	-4.		
Tree Stratum	70 0010.	<u> </u>	otatao	Number of Don				
Shrub Stratum				That Are OBL,			1	(A)
				Total Number o	f Dominant			
Herb Stratum (Plot size: <u>6 Ft</u>) Poa pratensis	90	Υ	FAC	Species Across			1	(B)
Taraxacum officinale			FACU					_
Vine Stratum	100	=Total Cover	-	Percent of Dom That Are OBL, I			100.0%	_(A/B)
vine Stratum				Prevalence Ind	lex Worksh	eet:		
				Total % Co	ver of:	Mult	iply by:	
				OBL species	0	x 1 =	0	
				FACW species	0	x 2 =	0	
				FAC species	90	x 3 =	270	
				FACU species	10	x 4 =	40	
				UPL species	0	x 5 =	0	
				Column Totals:	100	(A)	310	(B)
				Prevalenc	ce Index = B	/A=	3.10	
				Hydrophytic Ve	getation Inc	dicators:		
					for Hydroph		tation	
				X Dominance			dion	
					Index ≤ 3.0			
				Morphologi	cal Adaptation			orting
					c Hydrophyti		,	plain)
				Indicators of hy				y must
				Hydrophyti Vegetation Pre		es X	No	
Remarks: (Include photo numbers here or on a separate sheet Hydrophytic vegetation is a weak indicator since dominance te		prevalence is ı	not.					

SOIL Sampling Point: 04U

	ption: (Des	cribe to the Matrix	depth ne	eded to do		t the indi ledox Fea		confirm	the absence of Indicators.)		
Depth (inches)	Color	(moist)	%	Color (r		edox Fea %		Loc ²	Texture	Remarks	
0 to 11	10YR	2/1	100		,		- 7 -		SILTY CLAY LOAM		
11 to 24	10YR	5/3	70						SILTY CLAY LOAM		
11 to 24	10YR	5/4	30						SILTY CLAY LOAM		
¹Type: C=Cond				ced Martix	, CS=C	overed or	Coated	Sand Gra		=Matrix.	
Hydric Soil In	.diaatawa										
ا ا			[Sandy G	loved Ma	atriv (SA)			Indicators for Problematic Hydr	ic Soils: 3	
Histosol (A1	,				•	. ,			Coast Prairie Redox (A16)		
Black Histic	` '		[Sandy R Stripped		-			Iron-Manganese Masses (F12)		
Hydrogen S	,		[neral (F1)			Dark Surface (S7)		
Stratified La	` '		[Loamy G	-				Very Shallow Dark Surface (TF12)	ı	
2 cm Muck (. ,		ι		l Matrix (I				Other (Explain in Remarks)		
	elow Dark Surf	ace (A11)	l [_ ·	ark Surfa	,					
	Surface (A12)	ace (ATT)	[urface (F7)					
	xy Mineral (S1)		l [_ :	epressio	` '			Indicators of hydrophytic vegetation	n and	
	Peat or Peat		l	Redox D	epressio	115 (1 0)			wetland hydrology must be present, disturbed or problematic.	unless	
		. ,	ط/،								
	ve Layer (i	i observe	u).								
Type: Depth (inche	es).								Hydric Soil Present? Yes	No	X
Remarks:											
HYDROLOG	Y										
		aatawa									
Wetland Hyd Primary Indica			s required:	check all th	nat appl	v)			Secondary Indicators (minimu	ım of two real	uired)
Surface Wa	`	ani oi ono i	o roquirou,			d Leaves (E	39)		Surface Soil Cracks (B6		ou/
High Water	. ,				tic Fauna	,	30)		☐ Drainage Patterns (B10	•	
Saturation (A3)			True	Aquatic I	Plants (B14	1)		Dry-Season Water Tabl	le (C2)	
☐ Water Mark	s (B1)			Hydro	ogen Sul	fide Odor (0	C1)		Crayfish Burrows (C8)		
Sediment De	eposits (B2)			Oxidi	zed Rhiz	ospheres a	long Livin	g Roots (C	Saturation Visible on Ae	erial Imag.(C9)	
Drift Deposi	` '					Reduced Iro	, ,		Stunted or Stressed Pla	` '	
Algal Mat or						eduction in	Plowed S	soils (C6)	Geomorphic Position (D)2)	
Iron Deposit	is (B5) /isible on Aeria	al Imagan, (P	7\			ırface (C7) II Data (D9)	`		FAC-Neutral Test (D5)		
	getated Conc		,	`	•	n in Remarl	,				
Field Observa					. (=/p/a						
Surface Wate		Yes	N	o X	Denth	(inches):					
Water Table F		Yes			-	(inches):			•		
Saturation Pre		Yes			-	(inches):			Wetland Hydrology Present?	Yes No	o_X_
Describe Record Aerial Imagery	ed Data (strea	m gauge, mo	nitoring well,	aerial photo	s, previo	us inspectio	ons), if ava	ailable:			
Remarks: No wetland hyd	rology indicato	rs met.									

Project/Site: I-29 Exit 130 (20th S	Street South) Interchange	City/Coun	nty: Brookin	gs / Brookin State	<u> </u>	pling Date: _5		
Investigators: Kendall VandeKar	mp Caitlin Murp	hv			wnship, Range S 6		R 49W	
Landform (hillslope, terrace, etc.):	Floodplain	,			lief (concave, conve			
,	44.27588731	Long:	-96.75892796		Datum: NAD	· —		
	rarely flooded-Spottswood, o	_		. 0 to 2	NWI Classification:			
Are climatic / hydrologic conditions o			Yes X	No	(If No, explain ir	-		
Are Vegetation, Soil, I	Hydrology, significant	tly disturbed?	? A	re "Normal	Circumstances" pre	,	X No	
Are Vegetation, Soil, I		-			explain any answers	-		
SUMMARY OF FINDINGS -								•
Hydrophytic Vegetation Present?	Yes X No	owing sai	nping pon	it iocatio	iis, transects, ii	iiportant n	catules, et	С.
Hydric Soil Present?	Yes X No		ampled Area					
Wetland Hydrology Present?	Yes X No	within a	a Wetland?		Yes X	No	_	
Remarks:								
Wetland sampling point taken withir adjacent ditch.	ı Wetland 4 which is a poorl	y defined dep	pressional area	a that has fo	ormed wetland behin	d the spoil pile	e berm of the	
VEGETATION Use scientifi	ic names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test	Worksheet:		
Tree Stratum					Number of Domir			
Shrub Stratum					That Are OBL, FA	ACW, or FAC:	: 2	(A)
	· 6 E+ \				Total Number of [Cominant		
Carex emoryi	: <u>6 Ft</u>)	60	Υ	OBL	Species Across a		2	(B)
Alopecurus arundinaceus		30	- <u>'</u>	FACW	-			
Typha angustifolia		10	N	OBL	 Percent of Domin That Are OBL, FA 		100.0%	(A/B)
		100	=Total Cover		,			
Vine Stratum_					Prevalence Inde	k Worksheet:	:	
					Total % Cove		Multiply by:	
					OBL species	70	x 1 = 70	
					FACW species	30	x 2 = 60	
					FAC species	0	x 3 = 0	
					FACU species	0	x 4 = 0	
					UPL species	0	x 5 = 0	
					Column Totals:	100	(A) 130	(B)
					Prevalence	Index = B/A=	1.30	
					Hydrophytic Vege	tation Indica	ators:	
					X Rapid Test fo	r Hydrophytic	Vegetation	
					X Dominance T	est > 50%	-	
					X Prevalence Ir	ıdex ≤ 3.0		
					Morphologica	l Adaptations	(Provide supp	portina
					data in Rema	rks or on a se	eparate sheet)	. 0
					Problematic I	Hydrophytic Vo	egetation (Ex	(plain)
					Indicators of hyd be present, unles			gy must
					Hydrophytic Vegetation Prese	ent? Yes	X No	
Remarks: (Include photo numbers h Hydrophytic vegetation is dominant.)						

SOIL Sampling Point: 04W

		Maduise	•	eded to documen				•	
Depth (inches)	Color (Matrix	%	Color (moist)	Redox Fea %	Type ¹	Loc 2	Texture	Remarks
(inches)				Coloi (Illoist)		Type .	LOC 2		Remarks
0 to 12	10YR	2/1	100	40VD 5/4				SILTY CLAY LOAM	
12 to 18	10YR	3/1	96	10YR 5/1	4	<u>C</u>	M	SILTY CLAY LOAM	
18 to 22	10YR	5/2	95	10YR 5/4	4	C	M	SANDY CLAY	NA-NA-trise
Type: C=Con	centration, D=	Depletion,	RIVI=Redu	ced Martix, CS=C	overed or	Coated	sand Gra	ins. ² Location: PL=Pore Lining,	IVI=IVIATIX.
Hydric Soil II			-					Indicators for Problematic Hy	dric Soils: 3
Histosol (A1	*		L	Sandy Gleyed Ma	atrix (S4)			Coast Prairie Redox (A16)	
Histic Epipe	don (A2)			Sandy Redox (S5	5)			Iron-Manganese Masses (F12)	
Black Histic	(A3)			Stripped Matrix (S	86)			Dark Surface (S7)	
Hydrogen S	ulfide (A4)			Loamy Mucky Mir	neral (F1)			☐ Very Shallow Dark Surface (TF	12)
Stratified La	yers (A5)			Loamy Gleyed Ma	atrix (F2)				12)
2 cm Muck	(A10)			Depleted Matrix (F3)			Other (Explain in Remarks)	
Depleted Be	elow Dark Surfa	ce (A11)		Redox Dark Surfa	ace (F6)				
✓ Thick Dark	Surface (A12)			Depleted Dark Su	urface (F7)				
Sandy Muck	xy Mineral (S1)		_	Redox Depressio	ns (F8)			Indicators of hydrophytic vegetal	
5 cm Mucky	Peat or Peat (S	33)	_		(- /			wetland hydrology must be preser disturbed or problematic	
		-	۹/۰						
	ve Layer (if	observe	u):						
Type:	\-							Hydric Soil Present? Ye	es X No
Depth (inch	es):								
Remarks: Hydric soil indic	ators are prese	nt							
HYDROLOG	Y								
Wetland Hyd	rology Indicate	ators:							
			s required;	check all that appl	у)			Secondary Indicators (minir	mum of two required)
	ators (minimu		s required;	check all that appl	• • • • • • • • • • • • • • • • • • • •	39)		Secondary Indicators (minir	
Primary Indica	ators (minimu ter (A1)		s required;		d Leaves (E	39)		·	(B6)
Primary Indica	ators (minimu ter (A1) Table (A2)		s required;	Water-Staine	d Leaves (F a (B13)	,		Surface Soil Cracks	(B6) 310)
Primary Indica Surface Wa High Water	ators (minimu ter (A1) Table (A2) A3)		s required;	Water-Staine Aquatic Fauna	d Leaves (I a (B13) Plants (B14	1)		Surface Soil Cracks	(B6) 310) able (C2)
Primary Indica Surface Wa High Water Saturation (A	ators (minimu ter (A1) Table (A2) A3) s (B1)		s required;	Water-Staine Aquatic Fauna True Aquatic	d Leaves (I a (B13) Plants (B14 fide Odor (I	1) C1)	g Roots (C	Surface Soil Cracks Drainage Patterns (B Dry-Season Water T: Crayfish Burrows (C8	(B6) 310) able (C2)
Primary Indica Surface Wa High Water Saturation (A) Water Mark	ators (minimu ter (A1) Table (A2) A3) s (B1) eposits (B2)		s required;	Water-Staine Aquatic Fauna True Aquatic Hydrogen Sul	d Leaves (Ba (B13) Plants (B14 fide Odor (Cospheres a	4) C1) along Living	g Roots (C	Surface Soil Cracks Drainage Patterns (B Dry-Season Water T: Crayfish Burrows (C8	(B6) 310) able (C2) 3) Aerial Imag.(C9)
Primary Indica Surface Wa High Water Saturation (Water Mark Sediment D	ators (minimu ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3)		s required;	Water-Staine Aquatic Fauna True Aquatic Hydrogen Sul Oxidized Rhiz	d Leaves (I a (B13) Plants (B14 fide Odor (Cospheres a Reduced Iro	4) C1) along Living on (C4)	,	Surface Soil Cracks Drainage Patterns (B Dry-Season Water T Crayfish Burrows (C8 Saturation Visible on	(B6) 810) able (C2) 3) Aerial Imag.(C9) Plants (D1)
Primary Indica Surface Wa High Water Saturation (a) Water Mark Sediment D Drift Deposi	ators (minimu ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3)		s required;	Water-Staine Aquatic Faun: True Aquatic Hydrogen Sul Oxidized Rhiz	d Leaves (I a (B13) Plants (B14 fide Odor (I cospheres a Reduced Iro	4) C1) along Living on (C4) I Plowed S	,	Surface Soil Cracks Drainage Patterns (B Dry-Season Water T Crayfish Burrows (C8 Saturation Visible on Stunted or Stressed	(B6) (B10) able (C2) B) Aerial Imag.(C9) Plants (D1) (D2)
Primary Indica Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi Algal Mat or	ators (minimu ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3)	m of one is		Water-Staine Aquatic Faun: True Aquatic Hydrogen Sul Oxidized Rhiz Presence of F	d Leaves (I a (B13) Plants (B14 fide Odor (I cospheres a Reduced Iro leduction in	4) C1) along Livin on (C4) ı Plowed S	,	Surface Soil Cracks Drainage Patterns (B Dry-Season Water To Crayfish Burrows (C8 Saturation Visible on Stunted or Stressed	(B6) (B10) able (C2) B) Aerial Imag.(C9) Plants (D1) (D2)
Primary Indica Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposit Inundation \	ators (minimulater (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5)	m of one is	7)	Water-Staine Aquatic Faun: True Aquatic Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su	d Leaves (I a (B13) Plants (B14 fide Odor (I cospheres a Reduced Iro deduction in urface (C7)	4) C1) along Living on (C4) I Plowed S	,	Surface Soil Cracks Drainage Patterns (B Dry-Season Water To Crayfish Burrows (C8 Saturation Visible on Stunted or Stressed	(B6) (B10) able (C2) B) Aerial Imag.(C9) Plants (D1) (D2)
Primary Indica Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposit Inundation \	ators (minimulators (minimulators (minimulators (minimulators)) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) //sible on Aerial	m of one is	7)	Water-Staine Aquatic Faun: True Aquatic Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Gauge or We	d Leaves (I a (B13) Plants (B14 fide Odor (I cospheres a Reduced Iro deduction in urface (C7)	4) C1) along Living on (C4) I Plowed S	,	Surface Soil Cracks Drainage Patterns (B Dry-Season Water To Crayfish Burrows (C8 Saturation Visible on Stunted or Stressed	(B6) (B10) able (C2) B) Aerial Imag.(C9) Plants (D1) (D2)
Primary Indica Surface Wa High Water Saturation (A Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposit Inundation \ Sparsely Ve	ators (minimulater (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) c Crust (B4) ts (B5) //sible on Aerial egetated Concavations:	m of one is	7)	Water-Staine Aquatic Faun: True Aquatic Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Gauge or We	d Leaves (I a (B13) Plants (B14 fide Odor (I cospheres a Reduced Iro deduction in urface (C7)	4) C1) along Living on (C4) I Plowed S	,	Surface Soil Cracks Drainage Patterns (B Dry-Season Water To Crayfish Burrows (C8 Saturation Visible on Stunted or Stressed	(B6) (B10) able (C2) B) Aerial Imag.(C9) Plants (D1) (D2)
Primary Indica Surface Wa High Water Saturation (A Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposit Inundation (A Sparsely Ve	ators (minimulater (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) //isible on Aerial egetated Concavations: r Present?	m of one is Imagery (B: //e Surf. (B8)	7) No	Water-Staine Aquatic Faun: True Aquatic Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Gauge or We Other (Explain	d Leaves (I a (B13) Plants (B14 fide Odor (i cospheres a Reduced Iro reduction in urface (C7) Il Data (D9 n in Reman	4) C1) along Living on (C4) I Plowed S	,	Surface Soil Cracks Drainage Patterns (B Dry-Season Water To Crayfish Burrows (C8 Saturation Visible on Stunted or Stressed	(B6) (B10) able (C2) B) Aerial Imag.(C9) Plants (D1) (D2)
Primary Indica Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposit Algal Mat or Iron Deposit Inundation \ Sparsely Ve Field Observa	ators (minimulators (minimulators (minimulators)) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) /isible on Aerial egetated Concavations: r Present? Present?	m of one is Imagery (B: /e Surf. (B8)	7) No	Water-Staine Aquatic Faun: True Aquatic Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Gauge or We Other (Explain	d Leaves (I a (B13) Plants (B14 fide Odor (I cospheres a Reduced Iro leduction in urface (C7) Il Data (D9 n in Remar	4) C1) along Living on (C4) I Plowed S	,	Surface Soil Cracks Drainage Patterns (B Dry-Season Water To Crayfish Burrows (C8 Saturation Visible on Stunted or Stressed	(B6) (B10) able (C2) B) Aerial Imag.(C9) Plants (D1) (D2)
Primary Indica Surface Wa High Water Saturation (A Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposit Inundation N Sparsely Ve Field Observa Surface Wate Water Table F Saturation Pre	ators (minimulater (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) c Crust (B4) ts (B5) //sible on Aerial egetated Concave ations: r Present? Present?	Imagery (B: /e Surf. (B8) Yes Yes	7) No	Water-Staine Aquatic Faun: True Aquatic Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Gauge or We Other (Explain	d Leaves (I a (B13) Plants (B14 fide Odor (I cospheres a Reduced Iro deduction in urface (C7) ell Data (D9 in in Remar (inches): (inches):	(i) C1) C1) Ilong Living On (C4) Plowed S) ks)	oils (C6)	Surface Soil Cracks Drainage Patterns (B Dry-Season Water T: Crayfish Burrows (C8 Saturation Visible on Stunted or Stressed Geomorphic Position FAC-Neutral Test (Da	(B6) (B10) able (C2) (B3) Aerial Imag.(C9) Plants (D1) (D2) (D2)
Primary Indica Surface Wa High Water Saturation (A Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposit Inundation N Sparsely Ve Field Observa Surface Wate Water Table F Saturation Pre	ators (minimulater (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) c Crust (B4) ts (B5) //sible on Aerial egetated Concave ations: r Present? Present?	Imagery (B: /e Surf. (B8) Yes Yes	7) No	Water-Staine Aquatic Faun: True Aquatic Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Gauge or We Other (Explain	d Leaves (I a (B13) Plants (B14 fide Odor (I cospheres a Reduced Iro deduction in urface (C7) ell Data (D9 in in Remar (inches): (inches):	(i) C1) C1) Ilong Living On (C4) Plowed S) ks)	oils (C6)	Surface Soil Cracks Drainage Patterns (B Dry-Season Water T: Crayfish Burrows (C8 Saturation Visible on Stunted or Stressed Geomorphic Position FAC-Neutral Test (Da	(B6) (B10) able (C2) (B3) Aerial Imag.(C9) Plants (D1) (D2) (D2)
Primary Indica Surface Wa High Water Saturation (A Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposit Inundation N Sparsely Ve Field Observa Surface Wate Water Table F Saturation Pre Describe Record Aerial Imagery	ators (minimulater (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) c Crust (B4) ts (B5) //sible on Aerial egetated Concave ations: r Present? Present?	Imagery (B: /e Surf. (B8) Yes Yes	7) No	Water-Staine Aquatic Faun: True Aquatic Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Gauge or We Other (Explain	d Leaves (I a (B13) Plants (B14 fide Odor (I cospheres a Reduced Iro deduction in urface (C7) ell Data (D9 in in Remar (inches): (inches):	(i) C1) C1) Ilong Living On (C4) Plowed S) ks)	oils (C6)	Surface Soil Cracks Drainage Patterns (B Dry-Season Water T: Crayfish Burrows (C8 Saturation Visible on Stunted or Stressed Geomorphic Position FAC-Neutral Test (Da	(B6) (B10) able (C2) (B3) Aerial Imag.(C9) Plants (D1) (D2) (D2)
Primary Indica Surface Wa High Water Saturation (A Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposit Inundation N Sparsely Ve Field Observa Surface Wate Water Table F Saturation Pre	ators (minimulater (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) c Crust (B4) ts (B5) //isible on Aerial egetated Concavations: r Present? Present? eed Data (stream	Imagery (B: /e Surf. (B8) Yes Yes Yes Yes	7) No	Water-Staine Aquatic Faun: True Aquatic Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Gauge or We Other (Explain	d Leaves (I a (B13) Plants (B14 fide Odor (I cospheres a Reduced Iro deduction in urface (C7) ell Data (D9 in in Remar (inches): (inches):	(i) C1) C1) Ilong Living On (C4) Plowed S) ks)	oils (C6)	Surface Soil Cracks Drainage Patterns (B Dry-Season Water T: Crayfish Burrows (C8 Saturation Visible on Stunted or Stressed Geomorphic Position FAC-Neutral Test (Da	(B6) (B10) able (C2) (B3) Aerial Imag.(C9) Plants (D1) (D2) (D2)

Project/Site: I-29 Exit 130 (20th Street South) Interchange	City/Cour	nty: Brookin	gs / Brookin	<u> </u>	npling Date:)20	
Applicant/Owner: SDDOT			State	: SD San	npling Point	-		
Investigators: Kendall VandeKamp Caitlin Murph	hy		Section, Tov	wnship, Range S 6	6 T 10	9N R 4	49W	
Landform (hillslope, terrace, etc.): Floodplain			Local Rel	ief (concave, conve	ex, none):	Convex		
Slope(%):1	Long:	-96.75740063		Datum: NAI	D 1983			
Soil Map Unit Name: Fordtown, rarely flooded-Spottswood, o	cassionally t	flooded, loams	, 0 to 2	NWI Classification	: N/A			
Are climatic / hydrologic conditions on the site typical for this time	of year?	Yes X	No	(If No, explain i	n Remarks)	į		
Are Vegetation, Soil, Hydrology, significant	ly disturbed?	?	re "Normal	Circumstances" pre	esent? Ye	es X	No	
Are Vegetation, Soil, Hydrology, naturally p	roblematic?		(If needed,	explain any answer	rs in Remar	ks.)		
SUMMARY OF FINDINGS - Attach a site map sho	owing sar	mpling poir	nt locatio	ns, transects, i	importan	t featur	es, etc	.
Hydrophytic Vegetation Present? Yes X No								
Hydric Soil Present? Yes No X		Sampled Area a Wetland?		Yes	No X			
Wetland Hydrology Present? Yes No X					NO			
Remarks:								
Upland sampling point taken adjacent to Wetland 5 in a disturbe time of the delineation.	ed upland fie	ld with ruderal	vegetation.	Topsoil stripping w	as taking p	ace to the	east at	the
VEGETATION — Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Tes	t Workshee	et:		
Tree Stratum				Number of Domi That Are OBL, F			2	(A)
Shrub Stratum								
Herb Stratum (Plot size: 6 Ft)				Total Number of Species Across a			2	(B)
Phalaris arundinacea Hordeum jubatum		_ <u>Y</u> _	FACW FAC					- '
Trifolium repens			FACU	Percent of Domir That Are OBL, F			100.0%	(A/B)
	30	=Total Cover		That Are Obc, F	ACVV, OI FA			_
Vine Stratum_				Prevalence Inde	x Workshe	et:		
				Total % Cov			ply by:	
				OBL species	0	x 1 =	0	
				FACW species	15	x 2 =	30	
				FAC species	10	x 3 =	30	
				FACU species	5	x 4 =	20	
				UPL species	0	x 5 =	0	
				Column Totals:	30	(A)	80	(B)
				Prevalence	e Index = B/	Ά=	2.67	
				Hydrophytic Veg	etation Ind	icators:		
				Rapid Test fo			ation	
				X Dominance	Test > 50%			
				X Prevalence I	ndex ≤ 3.0			
				Morphologica				orting
				Problematic		•	,	olain)
				Indicators of hyd				y must
				Hydrophytic Vegetation Pres	;	· · ·		
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation is dominant.				- 1954415111100	1e	s <u>X</u>	No	

SOIL Sampling Point: 05U

Profile Descrip	otion: (Des		depth nee				confirm t	the absence of Indicators.)		
Depth	Calar	Matrix	0/		edox Fea		1 2	Tardona	Damandra	
(inches)	-	(moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	LOC 2	Texture	Remarks	
0 to 12	10YR	2/1	100					SILTY CLAY		
12 to 20	10YR	5/4	100	114 (; 00 0				SILTY CLAY	Gravelly	
Type: C=Conc	entration, L)=Depletion,	RM=Reduc	ced Martix, CS=Co	overed or	Coated	Sand Grai	ns. ² Location: PL=Pore Lining,	M=Matrix.	
Hydric Soil In Histosol (A1) Histosol (A1) Histosol (A1) Histosol (A1) Histosol (A1) Black Histor Hydrogen Su Stratified Lay 2 cm Muck (A Depleted Bel Thick Dark S Sandy Mucky 5 cm Mucky Restrictiv Type: Depth (inche Remarks: No hydric soil inc	don (A2) (A3) ulfide (A4) vers (A5) A10) low Dark Surface (A12) y Mineral (S1 Peat or Peat ve Layer (i	(S3)	[[[[[[Sandy Gleyed Ma Sandy Redox (S5 Stripped Matrix (S Loamy Mucky Min Loamy Gleyed Ma Depleted Matrix (F Redox Dark Surfa Depleted Dark Su Redox Depression) 6) eral (F1) etrix (F2) F3) ce (F6) rface (F7)			Indicators for Problematic Hy Coast Prairie Redox (A16) Iron-Manganese Masses (F12) Dark Surface (S7) Very Shallow Dark Surface (TFO) Other (Explain in Remarks) Indicators of hydrophytic vegetar wetland hydrology must be present disturbed or problematic	12) tion and nt, unless	X
Surface Wate High Water Saturation (A Water Marks Sediment De Drift Deposite Algal Mat or Iron Deposite Inundation V	rology Indi tors (minim er (A1) Table (A2) A3) ((B1) eposits (B2) s (B3) Crust (B4) s (B5) isible on Aeri		7)	check all that apply Water-Stained Aquatic Fauna True Aquatic F Hydrogen Sulf Oxidized Rhize Presence of R Recent Iron Re Thin Muck Su Gauge or Wel	d Leaves (I d (B13) Plants (B14) ide Odor (cospheres a educed Iro eduction in rface (C7) I Data (D9	(1) C1) along Living on (C4) I Plowed S		Secondary Indicators (mining Surface Soil Cracks Drainage Patterns (B Dry-Season Water T Crayfish Burrows (Cs Saturation Visible on Stunted or Stressed Geomorphic Position FAC-Neutral Test (D	(B6) (B10) able (C2) B) Aerial Imag.(C9) Plants (D1)	uired)
Field Observa Surface Water Water Table P Saturation Pre: Describe Recorde Aerial Imagery Remarks: No wetland hydro	Present? resent? sent? ed Data (strea		No No No nitoring well,	X Depth ((inches): (inches): (inches): us inspection	ons), if ava	ilable:	Wetland Hydrology Present?	Yes N	No_X_

Project/Site: I-29 Exit 130 (20th Street South) Interchange	City/Co	ount	y: Brooking	gs / Brookin	-	mpling D	-		20	
Applicant/Owner: SDDOT				State		mpling P				
Investigators: Kendall VandeKamp Caitlin Murp	hy				wnship, Range S		T 109N		9W	
Landform (hillslope, terrace, etc.): Floodplain				Local Re	lief (concave, conv): Co	ncave		
Slope(%): 1 Lat: 44.2775227	_	_	96.75745373		Datum: NA					
Soil Map Unit Name: Fordtown, rarely flooded-Spottswood, o		•	ooded, loams,	0 to 2	NWI Classification	-				
Are climatic / hydrologic conditions on the site typical for this time	•		Yes X	No	(If No, explain		,			
Are Vegetation, Soil, Hydrology, significant			Α	re "Normal	Circumstances" pr	esent?	Yes	X	No	
Are Vegetation, Soil, Hydrology, naturally p	oroblemati	ic?		(If needed,	explain any answe	ers in Rei	marks.	.)		
SUMMARY OF FINDINGS - Attach a site map she	owing s	san	npling poin	t locatio	ns, transects,	import	tant f	eature	es, etc) .
Hydrophytic Vegetation Present? Yes X No		_								
Hydric Soil Present? Yes X No			ampled Area Wetland?		Yes X	No				
Wetland Hydrology Present? Yes X No					163 X	- 110 -		_		
Remarks:										
Wetland sampling point taken within Wetland 5. Wetland 5 is a ruderal species to persist.	poorly def	fine	d depressiona	I area. Veg	etation has been d	isturbed	in pre	vious ye	ars allo	owing
VEGETATION Use scientific names of plants.	Absolut		<u>Dominant</u>	Indicator						
·	% Cove	<u>er</u>	<u>Species</u>	<u>Status</u>	Dominance Tes					
<u>Tree Stratum</u>					Number of Dom That Are OBL, I				2	(A)
Shrub Stratum										
Herb Stratum (Plot size: <u>6 Ft</u>)					Total Number of Species Across				2	(B)
Typha angustifolia		30	- Y	OBL	-					_ (- /
Hordeum jubatum Phalaris arundinacea		10 5	- Y N	FAC FACW	Percent of Domi			. 1	00.0%	(A/B)
- Halans aranamasca		15	=Total Cover	171011	That Are OBL, F	ACVV, O	r FAC:			
Vine Stratum			Total Cover		Prevalence Ind	ex Work	sheet	:		
					Total % Cov	/er of:		Multip	ly by:	
					OBL species	3	30	x 1 =	30	
					FACW species		5	x 2 =	10	
					FAC species	1	10	x 3 =	30	
					FACU species		0	x 4 =	0	
					UPL species		0	x 5 =	0	
					Column Totals:		45	(A)	70	(B)
					Prevalenc	e Index	= B/A=		1.56	
					Hydrophytic Ve	notation	Indic	atore:		
					Rapid Test	_			tion	
					X Dominance	•		, vegeta	шоп	
					X Prevalence					
								(Drovie	do ounn	ortina
					Morphologic data in Rem Problematic	narks or o	on a se	eparate	sheet)	Ü
					Indicators of hy	dric soil	and w	etland h	ydrolog	,
					Hydrophytic	С				
Demonica (Include photo combanda de la Companya de					+ ogstation F16:	JUINE :	Yes	X	No	
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation is dominant.	1									

SOIL Sampling Point: 05W

Pro	file	Descr	iption: (Des		depth nee				confirm	the absence of Indicators.)	
	Dep		0.1.	Matrix	0/		Redox Fea		1 2	Tankana	Demonstra
_	(inch			r (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0	to	4	10YR	2/1	100					SILTY CLAY	
4	to	8	10YR	2/1	70	10YR 5/2	30	D	M	SILTY CLAY	
8		16	10YR	5/2	90	10YR 5/6	10	С	M	CLAY	Gravelly
¹ Ty	pe: (C=Con	centration, I	D=Depletion,	RM=Redu	ced Martix, CS=C	overed or	Coated S	Sand Grai	ns. ² Location: PL=Pore Lining	, M=Matrix.
Ну	dric	Soil I	ndicators:							Indicators for Problematic H	vdric Soils: 3
	Histo	osol (A	1)			Sandy Gleyed M	atrix (S4)			Coast Prairie Redox (A16)	
	Histi	c Epipe	edon (A2)			Sandy Redox (S	5)			Iron-Manganese Masses (F12)	1
	Blac	k Histic	c (A3)			Stripped Matrix (S6)				
	Hvdi	roaen S	Sulfide (A4)			Loamy Mucky Mi				Dark Surface (S7)	
			ayers (A5)		[Loamy Gleyed M				☐ Very Shallow Dark Surface (TF	⁻ 12)
П		n Muck			-	Depleted Matrix (Other (Explain in Remarks)	
			elow Dark Sur	food (A11)	L		,				
				, ,	L	Redox Dark Surf	` '				
			Surface (A12)		L	Depleted Dark S	, ,			3 Indicators of hydrophytic vegeta	ation and
		-	ky Mineral (S1		L	Redox Depression	ons (F8)			wetland hydrology must be prese	ent, unless
	5 cm	Muck	y Peat or Peat	(S3)						disturbed or problemati	C
Ш	Res	strict	ive Layer (if observe	d):						
	Туре	e:								Hydric Soil Present?	es X No
	Dep narks	th (inch	ies):							,	
НҮ	DRC	LOG									
		-	Irology Ind				L A			On a second and the discrete and forcing	
Pr	imar	/ Indic	ators (minin	num of one is	required;	check all that app	• /			Secondary Indicators (min	imum of two required)
Ц			ater (A1)			Water-Staine	,	B9)		Surface Soil Cracks	
	•		Table (A2)			Aquatic Faun				Drainage Patterns (·
		ıration	,			☐ True Aquatic				Dry-Season Water	
		er Mark	,			☐ Hydrogen Su	`	,	5	Crayfish Burrows (C	·
			Deposits (B2)			Oxidized Rhiz			g Roots (C	_	- ' '
		-	its (B3)			Presence of I		` '	oile (CC)	Stunted or Stressed Geomorphic Positio	` '
	_		r Crust (B4) its (B5)			Thin Muck S			olis (Co)	FAC-Neutral Test (I	
			` '	ial Imagery (B7	')	Gauge or We	` '			V FAC-Neutral Test (I	73)
				cave Surf. (B8)	,	Other (Explai					
Fie	-		ations:					,			
			er Present?	Yes	No	Y Donth	(inches):				
			Present?	Yes	No		(inches):				
		ation Pr		Yes	No		(inches):			Wetland Hydrology Present?	Yes X No
						aerial photos, previo		ions) if ava	nilable:		
		agery	ou Data (Sile	anı gauge, mo	morning well,	acriai priotos, previo	лаз шэрсси	onoj, ii ava	шаыс.		
	narks fficier		ndary wetland	hydrology indi	cators met.						

Project/Site: I-29 Exit 130 (20th S	Street South) Interc	hange	City/Cour	nty: Brookin	gs / Brookin State		oling Date: pling Point:		020	
Investigators: Kendall VandeKar	np Cai	tlin Murpl	hv			wnship, Range S 6			49W	
Landform (hillslope, terrace, etc.):	Floodplain		,			ief (concave, convex				
,	44.28217572		Long:	-96.7544853		Datum: NAD	, <u> </u>			
· · · · ——————————————————————————————	0 to 1 percent slop	es. occa				NWI Classification:				
Are climatic / hydrologic conditions or				Yes X	No	(If No, explain in				
Are Vegetation X, Soil X,	Hydrology, s	ignificant	ly disturbed?	?	re "Normal	 Circumstances" pres	sent? Yes	S	No	Х
Are Vegetation, Soil, F	Hydrology, n	aturally p	roblematic?		(If needed	explain any answers	in Remark	s)		
SUMMARY OF FINDINGS -									rae at	
Hydrophytic Vegetation Present?	Yes No		Jwing Sai	nping pon	it iocatio	113, (141130013, 11	iiportaiit	Icatui	03, 01	
Hydric Soil Present?	Yes No			Sampled Area						
Wetland Hydrology Present?	Yes No		within a	a Wetland?		Yes	No X			
Remarks:										
Upland point taken adjacent to Wetl	and 6 on terrace ne	ext to rive	rine fringe w	etland. Top s	oil has been	stripped.				
VEGETATION - Use scientifi	c names of plar	nts.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test	Worksheet	t:		
Tree Stratum						Number of Domin				
Shrub Stratum						That Are OBL, FA	CW, or FA	C:	0	(A)
Herb Stratum (Plot size:	6 Ft)					Total Number of D	Oominant			
Trifolium repens			20	Υ	FACU	Species Across al	l Strata:	_	1	(B)
Phalaris arundinacea			5	N	FACW	Percent of Domina	ant Snecies			
Taraxacum officinale			5	N	FACU	That Are OBL, FA			0.0%	(A/B)
			30	=Total Cover		Prevalence Index	Workshee	et.		
Vine Stratum						Total % Cove			iply by:	
						OBL species	0	x 1 =		
						FACW species	5	x 2 =	10	
						FAC species	0	x 3 =	0	
						FACU species	25	x 4 =	100	
						UPL species	0	x 5 =	0	
						Column Totals:	30	(A)	110	(B)
						Prevalence	Index = B/A	 \=	3.67	
						Hydrophytic Vege Rapid Test for			tation	
						Dominance To	, , ,	ic veget	ation	
						Prevalence In				
						Morphological		e (Prov	ida sun	norting
						data in Remai				
						Problematic F	lydrophytic	Vegetati	ion (Ex	xplain)
						Indicators of hydr be present, unles				
						Hydrophytic Vegetation Prese	nt? Yes		No	X
Remarks: (Include photo numbers he Hydrophytic vegetation is not preser		e sheet.)				I				

SOIL Sampling Point: 06U

Profile De	scription: (De		depth need	led to docu			confirm	the absence of Indicators.)	
Depth	Colo	Matrix or (moist)	%	Color (mo	Redox Fe	Type 1	Loc ²	Texture	Remarks
(inches)	<u> </u>	,		,					- Itelliaiks
0 to 16		4/3	85	10YR 5/2		D		CLAY LOAM CLAY LOAM	
	Concentration,	D=Doplotion	PM-Poduce	10YR 4/6		Coated 9	M Sand Gra		M-Matrix
· Type. C=0	Jonice Illianori,	D-Debletion	, Mivi-Neduce	ou iviaitix, C	3-Covered o	ii Coaleu (Janu Gra	ans Location. FL-Fore Liming,	IVI-IVIAU IX.
Hydric So	il Indicators:			Sandy Gley	ed Matrix (S4)			Indicators for Problematic Hy	dric Soils: 3
	pipedon (A2)			. ,	, ,			Coast Prairie Redox (A16)	
	listic (A3)			Sandy Red	` '			Iron-Manganese Masses (F12)	
	en Sulfide (A4)				ky Mineral (F1)			Dark Surface (S7)	
	ed Layers (A5)				ved Matrix (F2)			Very Shallow Dark Surface (TF	12)
	uck (A10)			,				Other (Explain in Remarks)	
	ed Below Dark Su	urface (A11)		Depleted M					
		` ,		1	Surface (F6)				
	ark Surface (A12	•			ark Surface (F7)		3 Indicators of hydrophytic vegeta	tion and
	Mucky Mineral (S	,		Redox Dep	ressions (F8)			wetland hydrology must be presen	nt, unless
☐ 5 cm M	ucky Peat or Pea	it (S3)						disturbed or problematic	-
□ Restr	ictive Layer	(if observe	d):						
Type:								Hydric Soil Present? You	es No X
	inches):							•	
Remarks: Stripped to	psoil. No hydric ir	ndicators prese	nt.						
HYDROL	OGY								
	Hydrology Ind	licators:							
	ndicators (minir		s required; ch	neck all that	apply)			Secondary Indicators (mini	mum of two required)
Surface	: Water (A1)			Water-S	Stained Leaves	(B9)		Surface Soil Cracks	(B6)
	ater Table (A2)			=	Fauna (B13)	,		□ Drainage Patterns (B	
	ion (A3)			True Aq	uatic Plants (B1	14)		Dry-Season Water T	able (C2)
☐ Water N	Marks (B1)			Hydroge	en Sulfide Odor	(C1)		Crayfish Burrows (C8	3)
Sedime	ent Deposits (B2)			Oxidized	d Rhizospheres	along Living	g Roots (C	C3) Saturation Visible on	Aerial Imag.(C9)
Drift De	posits (B3)			Presence	e of Reduced I	ron (C4)		Stunted or Stressed	Plants (D1)
Algal M	at or Crust (B4)			Recent	Iron Reduction	in Plowed S	oils (C6)	Geomorphic Position	ı (D2)
Iron De	posits (B5)			Thin Mu	ıck Surface (C7	")		FAC-Neutral Test (D	5)
Inundat	ion Visible on Ae	rial Imagery (B	7)	Gauge	or Well Data (D	9)			
Sparse	ly Vegetated Con	cave Surf. (B8))	Other (E	Explain in Rema	arks)			
Field Obs	ervations:								
Surface V	Vater Present?	Yes	No	_X [Depth (inches):			_	
Water Ta	ble Present?	Yes	No	X[Depth (inches):			_	
Saturation	n Present?	Yes	No	_X [Depth (inches):			Wetland Hydrology Present?	Yes No_X_
Describe Re	corded Data (stre	eam gauge, mo	nitoring well, a	erial photos, p	orevious inspec	tions), if ava	ilable:		
Aerial Image	ery								
D .									
Remarks: No wetland	l hydrology indica	tors present.							
	, 5, 11	•							

	rookings / Brookings County Sampling Date: 5/12/2020
Applicant/Owner: SDDOT	State: SD Sampling Point: 06W
Investigators: Kendall VandeKamp Caitlin Murphy	Section, Township, Range S 6 T 109N R 49W
Landform (hillslope, terrace, etc.): Floodplain	Local Relief (concave, convex, none): Concave
Slope(%): 0 Lat: 44.28214073 Long:96.754	
Soil Map Unit Name: Lowe loam, 0 to 1 percent slopes, occasionally flooded	NWI Classification: PEMCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	X No (If No, explain in Remarks)
Are Vegetation, Soil, HydrologyX_, significantly disturbed?	Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, Hydrology, naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach a site map showing sampling	point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Avea
Hydric Soil Present? Yes X No Is the Sample within a Wetla	
Wetland Hydrology Present? Yes X No	
Remarks: Point located in riverine fringe Wetland 6 that abuts Stream 1. Stream has been drudisturbed.	dged to improve drainage. Consequently, wetland hydrology has been
VEGETATION Use scientific names of plants. Absolute % Cover Special Domi Special	04-4
Tree Stratum	Dominance Test Worksheet: Number of Dominant Species
Shrub Stratum	That Are OBL, FACW, or FAC:1 (A)
	Total Number of Dominant
Herb Stratum (Plot size: <u>6 Ft</u>) Phalaris arundinacea 100	Species Across all Strata: 1 (B)
100 =Total	
Vine Stratum_	Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
	Prevalence Index Worksheet:
	Total % Cover of: Multiply by:
	OBL species 0 x 1 = 0
	FACW species100 x 2 =200
	FAC species0 x 3 =0
	FACU species0 x 4 =0
	UPL species0 x 5 =0
	Column Totals: 100 (A) 200 (B)
	Prevalence Index = B/A= 2.00
	Hydrophytic Vegetation Indicators:
	X Rapid Test for Hydrophytic Vegetation
	X Dominance Test > 50%
	X Prevalence Index ≤ 3.0
	Morphological Adaptations (Provide supporting
	data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)
	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	Hydrophytic Vegetation Present? Yes X No
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation is dominant.	

SOIL Sampling Point: 06W

Depth	iption: (Des	cribe to the Matrix	depth nee		i t the inc Redox Fe		confirm	the absence of Indicators.)	
(inches)	Color	(moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 to 16	10YR	2/1	100					SILTY CLAY	
16 to 32	10YR	5/1	97	10YR	3	С	M	SILTY CLAY	
¹ Type: C=Con	centration, D	=Depletion,	RM=Redu	ced Martix, CS=C	overed o	or Coated	Sand Gra	nins. ² Location: PL=Pore Lining, I	√l=Matrix.
Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators:								Iric Soils: ³ 2)	
HYDROLOG Wetland Hyd	lrology Indi								
Surface Wa High Water Saturation (Water Mark Sediment D Drift Deposi Algal Mat or Iron Deposi	Ater (A1) Table (A2) (A3) As (B1) Deposits (B2) its (B3) r Crust (B4)	al Imagery (B <i>ī</i>	7)	Check all that appl Water-Staine Aquatic Fauna True Aquatic Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Gauge or We	d Leaves a (B13) Plants (B1 fide Odor cospheres Reduced In deduction in urface (C7	(C1) along Livin ron (C4) in Plowed S)		Secondary Indicators (minimum Surface Soil Cracks (E	Aerial Imag.(C9) lants (D1)
Field Observ: Surface Water Water Table I Saturation Pro Describe Record Aerial Imagery Remarks: Sufficient second	er Present? Present? esent? ded Data (strea			X Depth	(inches): (inches): (inches): us inspect	tions), if ava	ailable:	Wetland Hydrology Present?	Yes <u>X</u> No

Project/Site: I-29 Exit 130 (20th Applicant/Owner: SDDOT	Street South) Interch	nange	City/Coun	ty: Brooking	gs / Brookin State	<u> </u>	npling D	_		20	
Investigators: Kendall VandeKa	mp Cait	lin Murph	ny	(Section, Tov	vnship, Range S (-	109N		19W	
Landform (hillslope, terrace, etc.):	Floodplain				Local Rel	ief (concave, conve	ex, none	:): Co	ncave		
Slope(%): 2 Lat:	44.28176124		Long:	-96.74786148		Datum: NAI	D 1983				
Soil Map Unit Name: Moritz, occ	asionally flooded-La	moure, fr	equently flo	oded, complex	x, 0 to 2	NWI Classification	: N/A				
Are climatic / hydrologic conditions c	on the site typical for	this time	of year?	Yes X	No	(If No, explain i	n Rema	rks)			
Are Vegetation, Soil,	Hydrology, si	gnificantl	y disturbed?	Α	re "Normal	— Circumstances" pre	esent?	Yes	Х	No	
Are Vegetation, Soil,	Hydrology, na	aturally pi	roblematic?		(If needed,	explain any answe	rs in Rei	marks.	.)		
SUMMARY OF FINDINGS -	Attach a site m	ap sho	wing san	npling poin	t location	ns, transects, i	import	ant f	eatur	es, et	c.
Hydrophytic Vegetation Present?	Yes No	Х	-			,		-			
Hydric Soil Present?	Yes No	X		ampled Area Wetland?		Voc	No	~			
Wetland Hydrology Present?	Yes No	X				Yes	No _	Х	_		
Remarks:											
Upland sampling point taken adjace	ent to Wetland 7										
VEGETATION Use scientif	ic names of plar	nts.	Absolute % Cover	Dominant Species	Indicator Status	B	4 10/				
Tree Stratum			70 00101	Openies	Otatas	Dominance Tes Number of Domi					
Shrub Stratum						That Are OBL, F			:	0	(A)
						Total Number of	Domina	ınt			
Bromus inermis	:: <u>6 Ft</u>)		70	Y	FACU	Species Across				1	(B)
Poa pratensis			10	N	FAC						_
Spartina pectinata			10	N	FACW	Percent of Domin			. —	0.0%	(A/B)
			90	=Total Cover							
Vine Stratum_						Prevalence Inde		sneet			
						Total % Cov		0	x 1 =	ply by: 0	
						OBL species		10	x 2 =	20	
						FACW species	-	10	x3=	30	
						FAC species		70	x 4 =	280	
						FACU species	-	0	x5=	0	
						UPL species	-		_		(D)
						Column Totals:		90	(A)	330	(B)
						Prevalence	e Index :	= <i>B/A</i> =		3.67	
						Hydrophytic Veg	etation	Indica	ators:		
						Rapid Test f	or Hydro	phytic	Vegeta	ation	
						Dominance ⁻	Test > 5	0%			
						Prevalence I	ndex ≤ 3	3.0			
						Morphologic	arks or o	on a se	eparate	sheet)	
						Problematic		•	Ū	,	. /
						Indicators of hyd be present, unle	ess distu				gy must
						Hydrophytic Vegetation Pres		Yes		No	x
Remarks: (Include photo numbers h Hydrophytic vegetation is not prese		e sheet.)									

SOIL Sampling Point: 07U

Profile Description: (Describe to t	he depth ne		confirm t	he absence of Indicators.)			
Depth Matrix	0/		edox Feat		1 2	Tandona	Damanda
(inches) Color (moist)		Color (moist)	<u> </u>	Type ¹	LOC 2	Texture	Remarks
0 to 18 10YR 2/1	100					SILTY CLAY LOAM	
18 to 24 10YR 4/2	100		 :		 .	SILTY CLAY LOAM	
¹ Type: C=Concentration, D=Depletion	on, RM=Red	uced Martix, CS=Co	vered or (Coated	Sand Graii	ns. 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) Restrictive Layer (if observing Gravel Depth (inches): 124 Remarks: Hydric soil indicator present.	/ed):	Sandy Gleyed Ma Sandy Redox (S5) Stripped Matrix (S Loamy Mucky Min Loamy Gleyed Ma Depleted Matrix (F Redox Dark Surfa Depleted Dark Su Redox Depression	6) eral (F1) trix (F2) F3) ce (F6) rface (F7)			Indicators for Problematic Hy Coast Prairie Redox (A16) Iron-Manganese Masses (F12) Dark Surface (S7) Very Shallow Dark Surface (TF1 Other (Explain in Remarks) Indicators of hydrophytic vegetat wetland hydrology must be preser disturbed or problematic. Hydric Soil Present?	ion and it, unless
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one 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 Sparsely Vegetated Concave Surf. (64)	(B7)	; check all that apply Water-Stained Aquatic Fauna True Aquatic F Hydrogen Sulf Oxidized Rhize Presence of R Recent Iron Re Thin Muck Su Gauge or Wel	I Leaves (B (B13) Plants (B14) ide Odor (C ospheres al educed Iror eduction in I rface (C7) I Data (D9)	ong Living (C4) Plowed S	,	Secondary Indicators (mining Surface Soil Cracks (Drainage Patterns (BDry-Season Water Table Crayfish Burrows (C8D) Saturation Visible on Stunted or Stressed FOR Geomorphic Position FAC-Neutral Test (D8D)	B6) 10) able (C2) b) Aerial Imag.(C9) Plants (D1) (D2)
Water Table Present? Y	es N es N monitoring wel	No X Depth (inches): inches): inches): is inspectio	ns), if ava	ilable:	Wetland Hydrology Present?	Yes No_X_

Project/Site: I-29 Exit 130 (20th S Applicant/Owner: SDDOT	Street South) Interchange	City/Coun	ity: Brookin	gs / Brookin State	<u> </u>	ng Date:)20	
Investigators: Kendall VandeKar	mp Caitlin Murp	ohy		Section, To	wnship, Range S 5	T 109		49W	
Landform (hillslope, terrace, etc.):	Floodplain	,			lief (concave, convex, r				
,	44.28170708	Long:	-96.74784906		Datum: NAD 19	, <u> </u>			
	asionally flooded-Lamoure,	_		(0 to 2	NWI Classification:				
Are climatic / hydrologic conditions o			Yes X	No No	(If No, explain in R				
Are Vegetation, Soil, I		•			Circumstances" prese	,	s X	No	
Are Vegetation, Soil, H		•							
				,	explain any answers ir		,		
SUMMARY OF FINDINGS -	_	owing sar	npling poir	nt locatio	ns, transects, imp	ortant	featui	es, etc).
Hydrophytic Vegetation Present?	Yes X No	Is the S	ampled Area						
Hydric Soil Present? Wetland Hydrology Present?	Yes X No	within a	a Wetland?		Yes X N	0			
	Yes X No								
Remarks: Wetland sampling point taken withir	Wetland 7.								
VEGETATION _ Use scientifi	c names of plants.	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test W	orksheet	::		
Tree Stratum					Number of Dominar	nt Species	3		
Shrub Stratum					That Are OBL, FAC	W, or FA	C: _	2	_ (A)
Herb Stratum (Plot size:	6 Ft)				Total Number of Dor	minant			
Phalaris arundinacea		60	Υ	FACW	Species Across all S	Strata:		2	(B)
Typha angustifolia		30	Y	OBL	- Daniel of Daniel		_		_
Persicaria bicornis		10	N	FACW	 Percent of Dominant That Are OBL, FAC 			100.0%	(A/B)
		100	=Total Cover						
Vine Stratum					Prevalence Index V				
					Total % Cover o			iply by:	
					OBL species	30	x 1 =		
					FACW species _	70	_ x 2 =		
					FAC species	0	x 3 =		
					FACU species _	0	x 4 =		
					UPL species _	0	x 5 =	0	
					Column Totals:	100	(A)	170	(B)
					Prevalence Inc	dex = B/A	·=	1.70	
					Hydrophytic Vegeta	tion Indi	cators:		
					X Rapid Test for F	lydrophyt	ic Veget	tation	
					X Dominance Tes	t > 50%			
					X Prevalence Inde	x ≤ 3.0			
					Morphological A				orting
					Problematic Hyd		•	,	olain)
					Indicators of hydric be present, unless	soil and v	wetland	hydrolog	,
					Hydrophytic	a.o.carbou	or bron	omatio.	
					Vegetation Present	? Yes	X	No	
Remarks: (Include photo numbers h Hydrophytic vegetation is dominant.	ere or on a separate sheet.)			1				

SOIL Sampling Point: 07W

	ption: (De		depth need	ded to doc		the ind i dox Fea		confirm t	the absence of Indicators.)	
Depth (inches)	Colo	Matrix or (moist)	%	Color (mo		www.		Loc ²	Texture	Remarks
0 to 20	10YR	2/1	100	Ooloi (iiic			1,700		SILTY CLAY LOAM	Tromano
20 to 30	10YR	5/1	100						SILTY CLAY LOAM	
¹Type: C=Con				ed Martix, (CS=Cov	ered or	Coated	Sand Grai		M=Matrix.
Hydric Soil II	ndicators:		_	_					Indicators for Problematic Hyd	dric Soils: 3
Histosol (A1)			Sandy Gle	yed Matr	ix (S4)			Coast Prairie Redox (A16)	
Histic Epipe	don (A2)			Sandy Red	dox (S5)				☐ Iron-Manganese Masses (F12)	
Black Histic	(A3)			Stripped M	latrix (S6)			Dark Surface (S7)	
Hydrogen S	ulfide (A4)			Loamy Mu	cky Mine	ral (F1)			Very Shallow Dark Surface (TF1	2)
Stratified La	yers (A5)			Loamy Gle	yed Matr	ix (F2)			Other (Explain in Remarks)	-,
2 cm Muck	(A10)			Depleted N	∕latrix (F3	3)			Other (Explain in Nemarks)	
Depleted Be	elow Dark Su	rface (A11)		Redox Dar	k Surfac	e (F6)				
✓ Thick Dark	Surface (A12	2)		Depleted D	Oark Surf	ace (F7)			3 Indicators of hydrophytic vegetati	an and
Sandy Muck	ky Mineral (S	1)		Redox Dep	oressions	s (F8)			wetland hydrology must be presen	
5 cm Mucky	Peat or Pea	t (S3)							disturbed or problematic.	
☐ Restricti	ve Layer	(if observe	d):							
Type:									Hydric Soil Present? Ye	s X No
Depth (inche Remarks:	es):								1.,	
HYDROLOG Wetland Hyd		licators:								
Primary Indica	ators (minir	num of one i	s required; c	heck all tha	it apply))			Secondary Indicators (minin	num of two required)
Surface Wa	, ,			Water-	Stained	Leaves (I	B9)		Surface Soil Cracks (
High Water					Fauna (Drainage Patterns (B	
Saturation (,					ants (B14	,		☐ Dry-Season Water Ta☐ Crayfish Burrows (C8	` '
Water Mark	` '			_ , ,		le Odor (,	g Roots (C3		
Drift Deposi	. ,					duced Iro	_	g Noots (CC	Stunted or Stressed F	3 ()
Algal Mat or	` '						Plowed S	oils (C6)	Geomorphic Position	,
Iron Deposit	ts (B5)			☐ Thin M	luck Surf	ace (C7)			✓ FAC-Neutral Test (D5)	5)
Inundation \	/isible on Ae	rial Imagery (B	7)	Gauge	or Well	Data (D9)			
Sparsely Ve	getated Con	cave Surf. (B8))	Other (Explain i	n Remar	ks)			
Field Observa	ations:									
Surface Wate	r Present?	Yes	No	X	Depth (ir	nches):				
Water Table F		Yes			Depth (ir	,			Watland Hydralogy Present?	Voc. V. No.
Saturation Pre	esent?	Yes	No	X	Depth (ir	nches):		·	Wetland Hydrology Present?	Yes X No
Describe Record Aerial Imagery	ed Data (stre	eam gauge, mo	onitoring well, a	erial photos,	previous	inspecti	ons), if ava	ilable:		
Remarks: Sufficient secon	ndary wetland	l hydrology indi	icators present							

Project/Site: I-29 Exit 130 (20th SApplicant/Owner: SDDOT	Street South) Interch	nange	City/Coun	nty: Brookin	igs / Brooking State	<u> </u>	mpling D	_			
Investigators: Kendall VandeKa	mn Cair	tlin Murph	NV			vnship, Range S		110N		9W	
Landform (hillslope, terrace, etc.):	Ditch	warpii	,			ef (concave, conv					
, , ,	44.282398		Long:	-96.748821		Datum: NA		, <u> </u>			
· · · · · ———	n, 0 to 2 percent slop	pes, occa	=	oded		— NWI Classificatior	n: NA				
Are climatic / hydrologic conditions of				Yes X	No	(If No, explain	in Rema	rks)			
Are Vegetation, Soil _X,	Hydrology, si	gnificantly	y disturbed?	? A	Are "Normal (— Circumstances" pr	esent?	Yes	X	No	
Are Vegetation, Soil,	Hydrology, na	aturally pr	oblematic?		(If needed,	explain any answe	ers in Rei	marks.)		
SUMMARY OF FINDINGS -	Attach a site m	nap sho	wing sar	mplina poir						es. etc	c.
Hydrophytic Vegetation Present?	Yes No	Х	_			10, 11 011100010,				, , ,	
Hydric Soil Present?	Yes No	X		Sampled Area a Wetland?		Vaa	No	v			
Wetland Hydrology Present?	Yes No	X	Within	u Wolland.		Yes	No	Х	_		
Remarks:											
Sampling points are located on road	d fill slopes adjacent	: to wetlan	ıd in road di	itch bottom.							
VEGETATION Use scientif	ic names of plar	nts.	Absolute % Cover	Dominant Species	Indicator Status						
Tree Stratum			78 COVEL	<u>opecies</u>	<u> Status</u>	Dominance Tes Number of Dom					
						That Are OBL, I				1	(A)
Shrub Stratum Herb Stratum (Plot size	5.5:					Total Number of	f Domino	nt			
Bromus inermis	:: <u>6 Ft</u>)		50	Υ	FACU	Species Across				2	(B)
Poa pratensis			40	Y	FAC						
<u> </u>			90	=Total Cover		Percent of Domi That Are OBL, F				50.0%	_ (A/B)
Vine Stratum						Prevalence Ind	ex Work	sheet:			
						Total % Cov	er of:		Multip	oly by:	
						OBL species		0	x 1 =	0	
						FACW species		0	x 2 =	0	
						FAC species		10	x 3 =	120	
						FACU species		50	x 4 =	200	
						UPL species		0	x 5 =	0	
						Column Totals:		90	(A)	320	(B)
						Prevalenc	e Index :	= <i>B/A</i> =		3.56	
						Hydrophytic Veg	getation	Indica	itors:		
						Rapid Test	- for Hydro	phytic	Vegeta	ation	
						Dominance	Test > 5	0%			
						Prevalence	Index ≤ 3	3.0			
						Morphologic					orting
						data in Rem			•	,	nloin)
						Problemation		•	Ū	•	. ,
						Indicators of hy be present, unl	ess distu				y must
						Hydrophytic Vegetation Pres		Yes		No	X
Remarks: (Include photo numbers h Hydrophytic vegetation indicators n		e sheet.)									

SOIL Sampling Point: 08U / 09U

Profile Descr	iption: (De	scribe to the	e depth nee		confirm t	he absence of Indicators.)			
Depth		Matrix			edox Fea				
(inches)	Cold	or (moist)	%	Color (moist)	<u></u> %	Type ¹	Loc 2	Texture	Remarks
0 to 4	10YR	3 / 1	100					LOAM	
4 to 12	10YR	4/3	100					SANDY LOAM	gravelly
¹ Type: C=Con	centration,	D=Depletion	ı, RM=Redu	iced Martix, CS=Co	overed or	Coated S	Sand Grair	ns. ² Location: PL=Pore Lining,	M=Matrix.
Histosol (A' Histic Epipe Black Histic Hydrogen S Stratified La 2 cm Muck Depleted B Thick Dark Sandy Muc 5 cm Muck	Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16) Histic Epipedon (A2) Sandy Redox (S5) Iron-Manganese Masses (F12) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Very Shallow Dark Surface (TF12) 2 cm Muck (A10) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Restrictive Layer (if observed): Type: 12 Depth (inches): gravel Phydric Soil Present? Yes Typdric soil indicators are present.						tion and nt, unless		
								Hydric Soil Present? Ye	es No X
. ,	ies): gi	ravel							
HYDROLOG Wetland Hyd Primary Indic	lrology Ind		is required;	check all that appl	y)			Secondary Indicators (minir	mum of two required)
Surface Wa	ater (A1)			Water-Stained	d Leaves (F	B9)		Surface Soil Cracks	(B6)
High Water				Aquatic Fauna				Drainage Patterns (B	·
Saturation ((A3)			True Aquatic F	•	•		Dry-Season Water Ta	• •
Water Mark	(s (B1)			Hydrogen Sulf	ide Odor (C1)		Crayfish Burrows (C8	i)
Sediment D	eposits (B2)			Oxidized Rhize	ospheres a	along Living	Roots (C3) Saturation Visible on	Aerial Imag.(C9)
Drift Depos	its (B3)			Presence of R	educed Iro	on (C4)		Stunted or Stressed I	Plants (D1)
	r Crust (B4)			Recent Iron R		Plowed S	oils (C6)	Geomorphic Position	(D2)
Iron Deposi	its (B5)			☐ Thin Muck Su				FAC-Neutral Test (D	5)
Inundation '	Visible on Ae	rial Imagery (B	37)	Gauge or Wel	I Data (D9)			
Sparsely Ve	egetated Con	cave Surf. (B8	5)	Other (Explain	in Remar	ks)			
Field Observ	ations:								
Surface Water	er Present?	Yes	No	o X Depth	(inches):				
Water Table	Present?	Yes	No	o X Depth	(inches):				
Saturation Pr	esent?	Yes	No	o X Depth	(inches):			Wetland Hydrology Present?	Yes No_X_
Describe Record aerial imagery	ded Data (stre	eam gauge, mo	onitoring well,	aerial photos, previou	us inspection	ons), if ava	ilable:		
Remarks: No wetland hyd	drology indica	tors are presei	nt.						

Project/Site: I-29 Exit 130 (20th Street South) Interchange	City/Count	ty: Brookir	ngs / Brookin	gs County S	Sampling Date	e: 5/12/	2020	
Applicant/Owner: SDDOT			State	: SD S	Sampling Poir	nt: 08W	/ 09W	
Investigators: Kendall VandeKamp Caitlin Murph	ny		Section, Tov	vnship, Range	S 6 T 10	09N F	R 49W	
Landform (hillslope, terrace, etc.): Ditch			Local Rel	ief (concave, co	nvex, none):	Concav	е	
Slope(%): 0 Lat: 44.282407	Long: -	96.748768		Datum: N	IAD 1983			
Soil Map Unit Name: Divide loam, 0 to 2 percent slopes, occa	sionally floo	ded		NWI Classificati	on: PEMCx	(
Are climatic / hydrologic conditions on the site typical for this time	of year?	Yes	No X	(If No, expla	in in Remarks	s)		
Are Vegetation, Soil, Hydrology, significantly	y disturbed?		Are "Normal	Circumstances"	present?	Yes	No	Χ
Are Vegetation, Soil, Hydrology, naturally pr	roblematic?		(If needed,	explain any ansv	wers in Rema	arks.)		
SUMMARY OF FINDINGS - Attach a site map sho	wing san	npling poi	nt locatio	ns, transects	s, importa	nt featı	ıres, etc	c.
Hydrophytic Vegetation Present? Yes X No								
Hydric Soil Present? Yes X No		ampled Area Wetland?		Yes X	No			
Wetland Hydrology Present? Yes X No				100 <u>X</u>				
Remarks: Sampling points are located in reed canary grass ditch bottoms. there is no surface water connectivity with the drainage that outle					o not have cu	ulverts. C	onsequer	ntly,
VEGETATION — Use scientific names of plants.	Absolute % Cover	Dominant Species	Indicator Status					
Tree Stratum	70 OOVEI	<u>Opecies</u>	<u>Otatus</u>	Dominance T				
				Number of Do That Are OBL			1	(A)
Shrub Stratum				Tatal Niveshau	of Daminant			
Herb Stratum (Plot size: 6 Ft)	00	V	EA 0\A/	Total Number Species Acros			1	(B)
Phalaris arundinacea Bromus inermis		- Y N	FACU	_		-		_ ` ′
Poa pratensis		N	FAC	Percent of Do That Are OBL			100.0%	(A/B)
	100	=Total Cover		That Ale Obl	, 1 ACVV, 01 1	Λο. –		
Vine Stratum_				Prevalence In	idex Worksh	neet:		
				Total % C			Iltiply by:	
				OBL species	0	x 1		
				FACW specie				
				FAC species	10		-	
				FACU specie	·		= 40	
				UPL species	0	x 5	= 0	
				Column Totals	s:100	0 (A)	230	(B)
				Prevalei	nce Index = E	3/A=	2.30	
				Hydrophytic V	egetation In	dicators	:	
				X Rapid Tes	st for Hydroph	nytic Veg	etation	
				X Dominand	e Test > 50%	6		
				X Prevalence	e Index ≤ 3.0)		
					gical Adaptati emarks or on			oorting
					tic Hydrophyt		,	plain)
				Indicators of be present, u	hydric soil an	nd wetlan	d hydrolog	. ,
						ca or pro	DIGITIALIC.	
				Hydrophy Vegetation Pi		es X	No	
Remarks: (Include photo numbers here or on a separate sheet.)				<u>I</u>				

SOIL Sampling Point: 08W / 09W

	iption: (Des	cribe to the Matrix	depth nee	ded to docume	ent the ind Redox Fea		confirm	the absence of Indicators.)		
Depth (inches)	Color	(moist)	%	Color (moist)			Loc ²	Texture	Rema	arks
0 to 4	10YR	3/1	100			- 71		SILTY CLAY LOAM		
4 to 10	10YR	3/1	97	10YR 4/4	3			LOAM		
				ced Martix, CS=				nins. ² Location: PL=Pore Lining,	M=Matrix.	
Hydric Soil I	ndicators:		_					Indicators for Problematic Hyd	dric Soils:	3
Histosol (A1	1)			Sandy Gleyed	Matrix (S4)			Coast Prairie Redox (A16)		
Histic Epipe	edon (A2)			Sandy Redox (S5)			Iron-Manganese Masses (F12)		
Black Histic	(A3)			Stripped Matrix	(S6)			Dark Surface (S7)		
Hydrogen S	Sulfide (A4)			Loamy Mucky I	Mineral (F1)			☐ Very Shallow Dark Surface (TF1	2)	
Stratified La	ayers (A5)			Loamy Gleyed	Matrix (F2)			Other (Explain in Remarks)	_,	
2 cm Muck	(A10)			Depleted Matri				Other (Explain in Remarks)		
Depleted Be	elow Dark Surf	face (A11)	•	✓ Redox Dark Su	ırface (F6)					
L Thick Dark	Surface (A12)			Depleted Dark	Surface (F7))		3 Indicators of hydrophytic vegetati		
Sandy Mucl	ky Mineral (S1))		Redox Depress	sions (F8)			wetland hydrology must be presen		
5 cm Mucky	Peat or Peat	(S3)						disturbed or problematic.		
Restricti	i <mark>ve Layer</mark> (i	if observe	d):							
Type: 12								Hydric Soil Present? Ye	. V	No
Depth (inch	es): gra	ivel						Hydric Soil Present? Ye	s X	No
Remarks:										
HVDDOL OC	X 7									
HYDROLOG										
Wetland Hyd	0.		required:	check all that ap	nnly)			Secondary Indicators (minin	num of two	required)
Surface Wa	,		, roquirou, v		ned Leaves ((B0)		Surface Soil Cracks (o required)
High Water	` ,			Aquatic Fat	,	(09)		☐ Drainage Patterns (B	,	
Saturation (_ `	ic Plants (B1	4)		Dry-Season Water Ta	•	
Water Mark	,			Hydrogen S	Sulfide Odor ((C1)		Crayfish Burrows (C8)	
Sediment D	eposits (B2)			Oxidized RI	hizospheres	along Livin	g Roots (C	Saturation Visible on	Aerial Imag.	.(C9)
Drift Deposi	its (B3)			Presence o	f Reduced In	on (C4)		Stunted or Stressed F	lants (D1)	
Algal Mat or	r Crust (B4)				Reduction in		Soils (C6)	✓ Geomorphic Position	(D2)	
Iron Deposi					Surface (C7)			FAC-Neutral Test (D5	i)	
	Visible on Aeri		,		Vell Data (D9	,				
Sparsely Ve	egetated Conc	ave Surf. (B8)		U Other (Exp	lain in Rema	rks)				
Field Observa	ations:									
Surface Wate		Yes	No		th (inches):					
Water Table I		Yes	No		th (inches):			Wetland Hydrology Droop #2	Vac V	/ No
Saturation Pre	esent?	Yes	No	X Dep	th (inches):			Wetland Hydrology Present?	162	
	ded Data (strea	am gauge, mo	nitoring well,	aerial photos, prev	ious inspect	ions), if ava	ailable:			
aerial imagery										
Remarks:										
Sufficient wetla	nd hydrology ii	ndicators are p	oresent.							

Project/Site: I-29 Exit 130 (20th Street South) Interchange Applicant/Owner: SDDOT	City/Coun	ty: Brooking	gs / Brookin State	<u> </u>	oling Date: _{		
Investigators: Kendall VandeKamp Caitlin Murph	าง			wnship, Range S 5			
Landform (hillslope, terrace, etc.): Floodplain	-,			lief (concave, convex			
Slope(%): 0 Lat: 44.28293388	I ong:	-96.75687893		Datum: NAD	· · · —		
Soil Map Unit Name: Fordtown loam, 0 to 2 percent slopes, ra	_			NWI Classification:			
Are climatic / hydrologic conditions on the site typical for this time		Yes X	No	(If No, explain in			
Are Vegetation, Soil, Hydrology, significantl	,	-	-	(ii rte, explain iii Circumstances" pres	,	X No	2
Are Vegetation, Soil, Hydrology, naturally p	-						
			•	explain any answers		•	
SUMMARY OF FINDINGS - Attach a site map sho	wing sar	npling poir	it locatio	ns, transects, in	nportant t	eatures, o	etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes No X	Is the S	ampled Area					
Wotland Hydrology Procent?	within a	a Wetland?		Yes	No X	_	
, o, les							
Remarks: Upland sampling point taken adjacent to gravel pit (Lake 1) in ar	area that a	nneared to he	a wetland fr	inge Only 1/3 wetla	and indicators	were nrese	nt
pland sumpling point taken adjacent to graver pit (Lake 1) in a	r aroa triat a	ppeared to be	a wottana n	inge. Only 170 would	na maioators	were prese	
MEGETATION III III III III III III III III III	Absolute	Dominant	Indicator				
VEGETATION Use scientific names of plants.	% Cover	Species	Status	Dominance Test	Worksheet:		
<u>Tree Stratum</u> (Plot size: <u>30 Ft</u>)				Number of Domin		2	(4)
Ulmus americana	25	Υ	FACW	That Are OBL, FA	CW, or FAC:	: 3	(A)
Salix interior	15	Y	FACW	Total Number of D	ominant		
Cornus florida	10	Y	FACU	Species Across al	l Strata:	4	(B)
	50	=Total Cover		Percent of Domina	ant Chaoina	·	
Shrub Stratum				That Are OBL, FA		75.0	% (A/B)
Herb Stratum (Plot size: <u>6 Ft</u>)				Barrala a la la la			
Phalaris arundinacea	80	Y	FACW	Prevalence Index			
	80	=Total Cover		Total % Cover	of: 0	$\frac{\text{Multiply by}}{\text{x 1} = 0}$	
Vine Stratum				OBL species	120		10
				FACW species	0	x3 = 0	
				FAC species	10	·	0
				FACU species	0	x5 = 0	
				UPL species	-		
				Column Totals:	130	(A) 280	0 (B)
				Prevalence	Index = B/A=	2.15	5
				Hydrophytic Vege	tation Indica	ators:	
				Rapid Test for	r Hydrophytic	Vegetation	
				X Dominance Te	est > 50%		
				X Prevalence In	dex ≤ 3.0		
				Morphological	Adaptations	(Provide sı	upporting
				data in Remai			,
				Problematic H		,	. ,
				Indicators of hydr be present, unles			
				Hydrophytic Vegetation Prese	nt? Yes	X No	
Remarks: (Include photo numbers here or on a separate sheet.) Hydrophytic vegetation is dominant.				1			

SOIL Sampling Point: 10U

Profile Description: (Describe to the depth needed to document the indicator or confirm the Depth Matrix Redox Features								the absence of Indicators.)		
(inches)	Colo	r (moist)	%	Color (moist)	%		Loc ²	Texture	Remarks	
0 to 12	10YR	2/1	100	,				SILTY CLAY		
12 to 24	10YR	5/3	95	10YR 5/2	5	D	M	SILTY CLAY		
¹Type: C=Cor	centration,	D=Depletion	RM=Reduc	ced Martix, CS=C	Covered o	or Coated	Sand Gra	ains. ² Location: PL=Pore Lining,	M=Matrix.	
Type: C=Concentration, D=Depletion, RM=Reduced Martix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators:									dric Soils: 3 12) tion and nt, unless	X
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) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2)						ng Roots (C	<i>'</i>	(B6) 310) able (C2) 3) Aerial Imag.(C9)	uired)	
☐ Iron Depos ☐ Inundation ☐ Sparsely V	or Crust (B4) its (B5) Visible on Aer egetated Cond	rial Imagery (B cave Surf. (B8)	•	Presence of Recent Iron I Thin Muck S Gauge or W Other (Expla	Reduction i Surface (C7 ell Data (D	in Plowed S ') 9)	Soils (C6)	Stunted or Stressed Geomorphic Position FAC-Neutral Test (D	n (D2)	
Surface Water Table Saturation Pr	er Present? Present?	Yes Yes Yes	No	X Depth	n (inches): n (inches): n (inches):				Yes N	o_X_
Describe Record Aerial Imagery	ded Data (stre	am gauge, mo	nitoring well,	aerial photos, previo	ous inspec	tions), if av	ailable:			
Remarks: High ground w surface water 6					soil satura	ition in the u	upper profi	ile is likely brief due to lateral drainage into th	ne gravel pit and th	e

Appendix C – Hydrogeomorphic Functional Assessment

To be completed based upon impacts determined during preliminary design using the HGM Classifications provided in Table 2 of the Wetland Delineation Report and confirmation of HGM Classifications by the USACE during their jurisdictional determination.



Please provide all information pertinent to your Wetland Credit Purchase request.

U.S. Army Corps of Engineers Section 404 Permit Number: TBD upon receiving AJD

P	R	0	JE	EC	T	:
		$\overline{}$,,,	- ~		•

Name of Project (if applicable) https://www.20thstinterchange.com/

Legal description of the property to be impacted:

S6-109-49, 31-110-49, 6-109-49

County and State: Brookings, SD

Service Area: Upper Big Sioux

Number of **acres** of impacted wetlands:

Number and type of wetland **credits** requested:

majority of impacts are to gravel pit - assuming no mitigation for those

roughly ≤2 Riverine Credits

Name of Corps of Engineers Project Manager: Nathan Morey

PERMIT APPLICANT:

Name & Address of Entity:

700 E Broadway Ave.

Name of primary POC: Pierre, SD 57501

Telephone numbers: Kit Bramblee

605.773.2428

kit.bramblee@state.sd.us

PURCHASER:								
PORCHASER.	same as applica	nt						
Name & Address of Entity:			-					
			-					
Name of primary POC:			_					
Telephone numbers:								
relephone numbers.								
Email:								
Lillall.			-					
ENGINEER / AGENT:								
Name & Address of Entity:	HDR Engineering	, Inc.						
·	101 S. Phillips Ave	nue, Suite 401						
Name of primary POC:	Kendall Vande Kamp							
Traine or primary root	605.782.8115		-					
Telephone numbers:								
	kendall.vandekamp@hdrinc.com							
Email:		<u> </u>	-					
Person completing this form: Kendall Vande Kamp								
r ereen eempreem g amereen			2020					
Signature		Date:						
Email this completed form to Lanita@EcoAssetMidwest.com								
IMPORTANT: Attach a copy of your: • Corps of Engineers 404 Permit								
Wetland Mitigation Plan								
	· ·							
Upon receipt we will return to you, a Draft Purchase Contract and Draft Letter of Credit Availability.								
If you have questions, please phone our office: 605-809-7251.								
Office Use Only:								
Date Rec'd:	from:	Service Area:						
Name of Mitigation Bank to be drawn Contract number:	from:	Ratio:Price:						

Becky Baker

From: Rust, Jill < Jill.Rust@hdrinc.com>
Sent: Tuesday, August 25, 2020 1:24 PM

To: Becky Baker

Subject: FW: Upper Big Sioux GSA Credit Availability **Attachments:** Client Intake form NCM FILLABLE.pdf

Jill Rust

D 605.782.8124 M 605.690.3500

hdrinc.com/follow-us

From: Vande Kamp, Kendall

Sent: Tuesday, August 25, 2020 12:38 PM **To:** Rust, Jill <Jill.Rust@hdrinc.com>

Subject: FW: Upper Big Sioux GSA Credit Availability

FYI

From: Lanita Herbener [mailto:lanita@ecoassetmidwest.com]

Sent: Tuesday, August 25, 2020 12:01 PM

To: Vande Kamp, Kendall < Kendall. Vande Kamp@hdrinc.com>

Subject: RE: Upper Big Sioux GSA Credit Availability

CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning, Kendall,

Thank you for sending the completed Client Intake form.

Thank you for your inquiry of availability of wetland mitigation credits in the Upper Big Sioux Service Area for the "20th Street Interchange Development". North Central Mitigation, LLC does have at this time wetland credits available to purchase to meet mitigation needs of up to 2 Riverine Credits. North Central Mitigation does not guarantee availability at any future date without buyer's pursuit of a binding Purchase Contract with North Central Mitigation.

Let me know if you have any further questions and if/when you wish to pursue purchasing credits.

Thank you!

Lanita Herbener for North Central Mitigation, LLC

Lanita Herbener
Office Manager

