

January 20, 2016

Attn: Claudia Smith EPA Region 8 Air Program (8P-AR) 1595 Wynkoop Street Denver, CO, 80202

#### Re: Response to EPA Completeness Review U.S. Silica Parshall Transload Facility General Permit Coverage

Dear Ms. Smith:

Barr Engineering Co. (Barr) has reviewed the EPA's completeness review questions and appreciates your time to talk through these comments earlier this week. This correspondence provides additional information and clarification regarding threatened and endangered species determinations of effect, as well as areas surveyed as part of the Class III cultural resources inventory and Tribal Historic Preservation Officer (THPO) coordination.

The proposed Project will require a Nationwide Section 404 Permit from the U.S. Army Corps of Engineers (USACE) for unavoidable wetland impacts to jurisdictional wetlands. As part of the USACE's permit review process they dictated that they will communicate with the U.S. Fish and Wildlife Service (USFWS), State Historic Preservation Office (SHPO), and THPO directly. However, USACE also said that any information that could be provided to help the USACE facilitate these communications would be appreciated.

#### **Threatened and Endangered Species Review**

<u>EPA Comment:</u> Under Section 7(a)(2) of the Endangered Species Act (ESA), the EPA must ensure that any action authorized, funded, or carried out by the EPA is not likely to jeopardize the continued existence of a federally listed endangered species or threatened species or result in the destruction or adverse modification

of such species' designated critical habitat. If the EPA's action (i.e., permit issuance) may affect a federally listed species or designated critical habitat, Section 7(a)(2) of the ESA and relevant implementing regulations at 50 CFR Part 402 require consultation between the EPA (or another designated Federal lead agency) and the United States Fish and Wildlife Service (FWS). The permit application for the Parshall Transload Facility is subject to ESA requirements.

US Silica selected criterion A in its Request for Coverage to satisfy the ESA requirements. Information pertaining to the ESA is found in the US Silica's Request for Coverage. The supporting documentation includes a list of federally-listed species potentially occurring in the vicinity of the proposed project that was obtained through the FWS Information, Planning, and Conservation System (IPaC) online program on November 20, 2015. The ESA documentation indicates that both a desktop review and a field assessment of suitable habitat were conducted. Documentation of the field assessment such as the extent of the assessment, when it occurred and by whom was not provided. Greater detail on the results of the assessment needs to be provided to support the findings of no effect on federally listed species due to the lack of suitable habitat and high levels of existing human disturbance. We note that there is critical habitat for the piping plover just over 2 miles from the proposed project area.

<u>Response</u>: Barr obtained a list of federally-listed species potentially occurring in the vicinity of the proposed project through the USFWS Information Planning and Conservation System (IPaC) online program. In addition, field surveys for suitable habitat for these species were completed in August 2015, in conjunction with the field wetland delineation. A copy of the Wetland Delineation Report, which contains threatened and endangered species habitat survey methodology and findings is attached for your records. Results of the threatened and endangered species habitat survey were used to assess the Project's likely effect on each listed species. A threatened and endangered species review/determination of effect memo has been prepared for inclusion in the Section 404 permit application package to assist the USACE with USFWS Section 7 consultation. A copy of this memo is also attached for your records.

#### **Cultural Resources Review**

<u>EPA Comment:</u> The National Historic Preservation Act documentation is provided by the document, "A Class I and Class III Cultural Resource Inventory of the U.S. Silica Parshall Transload Facility, Mountrail and Ward Counties, North Dakota", SWCA Cultural Resource Report Number 15-517 prepared by SWCA Environmental Consultants and dated October 2, 2015. The Abstract indicates that the only federal agency potentially involved with the proposed project would be the U.S. Army Corps of Engineers through the Clean Water Act. The class III inventory focused on wetlands and potential waters of the U.S. under the jurisdiction of the U.S. Army Corps of Engineers. Only two areas were inventoried for a total of 61.75 areas. However, U.S. Silica estimated that the proposed project area is approximately 330 acres.

While the cultural resource report was submitted to the State Historical Society of North Dakota, it does not appear that SWCA discussed the project with the Tribal Historic Preservation Officer (THPO) for the Three Affiliated Tribes. The EPA is concerned that the entire 330 acre project area was not inventoried and that the THPO was not consulted or provided a copy of the Cultural Resources Inventory. The entire project area should be inventoried and the THPO contacted. See Steps 2 and 3 of Appendix B – Historic Properties Screening Process on the Request for Coverage form. The contact information for the THPO for the Three Affiliated Tribes is: Elgin Crows Breast, THPO Mandan, Hidatsa & Arikara Nation 404 Frontage Road New Town, ND 58763 Tel: 701.862.2474, Fax: 701.862.2490, Email: <u>redhawk@mhanation.com</u>

<u>Response:</u> Barr completed a scoping study for this proposed Project in March 2015. As part of that study, the potential for cultural resources to occur in the project area was assessed using publicly available information. The Final Environmental Impact Statement for the Thunder Butte Refinery<sup>1</sup>, located immediately south of the proposed Project site was reviewed to gather an overview of cultural resources in the vicinity. According to this document, SHPO had no records of cultural resource investigations or known sites for the refinery site. For that immediately adjacent project, the THPO and SHPO both concurred there was a low potential for significant cultural resources in the area and recommended a determination of no historic properties affected.

The Class I literature review completed in August 2015 for this Project identified one cultural resource, a segment of historic railroad, in the study area. However, as noted in the October 2015 Class I and Class III Cultural Resource Inventory (submitted to the EPA as part of this air permit application package) recent addendum to SHPO policy indicates this railroad segment does not require recordation and a recommendation of No Historic Properties Affected was made.

Based on the Class I findings for this project and the cultural resources review completed for the Thunder Butte Refinery, the Project archaeologist recommended completing the Class III (pedestrian) survey in accordance with USACE guidelines. As part of their Section 404 permit review, the USACE requires field surveys for cultural resources within a 200-foot wide buffer surrounding potentially jurisdictional wetlands. As such, only those portions of the Project area were inventoried to Class III standards.

The October 2015 Class I and Class III Cultural Resource Inventory was included in the Section 404 permit application package to assist the USACE with SHPO Section 106 consultation and THPO coordination. This report was also informally submitted to SHPO as it was one of the first reports prepared following the SHPO policy addendum regarding railroads. However, that informal submittal does not substitute for formal, agency-to-agency consultation between the USACE and SHPO as part of the Section 106 process that the USACE will initiate once the wetland application is submitted.

<sup>&</sup>lt;sup>1</sup> U.S. Department of the Interior Bureau of Indian Affairs Great Plains Regional Office and U.S. Environmental Protection Agency Region 8. August 2009. Final Environmental Impact Statement for the Mandan, Hidatsa, and Arikara Nation's Proposed Clean Fuels Refinery Project. Accessed March 2015. Available online at: <u>http://nepis.epa.gov/Exe/ZyNET.exe/P100G7IR.TXT?ZyActionD=</u> ZyDocument&Client=EPA&Index=2006+Thru+2010&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc= &TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czy files%5CIndex%20Data%5C06thru10%5CTxt%5C00000033%5CP100G7IR.txt&User=ANONYMOUS&Password=anonymous&SortMet hod=h%7C-&MaximumDocuments=1&FuzzyDegree= 0&Image Quality=r75g8/r75g8/x150y150g16/i425&Display=p%7Cf&Def SeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x& ZyPURL.

Please let us know if the EPA has additional questions or requires further information to complete its completeness review for the U.S. Silica Parshall Transload Facility General Permit Request for Coverage.

Sincerely,

Join L Stegink

Lori Stegink Vice President

Cc: Deirdre Rothery, US EPA Edmund Baker, MHA Nation Tina Archer, U.S. Silica Steve Hartman, U.S Silica Mike Ruttle, U.S. Silica

Attachments:

Wetland Delineation Report Threatened and Endangered Species Review Memo



# Memorandum

To: Garth Zimbelman, Regulatory Project Manager
From: Shanna Braun
Subject: Threatened and Endangered Species Review
Date: January 5, 2016
Project: US Silica Parshall Transload Facility

U.S. Silica (USS) is proposing construction of a new rail transload facility near Parshall, ND to transport silica sand from rail cars to trucks. Proposed construction of the transload facility includes installation of a new rail line parallel and adjacent to the existing Canadian Pacific's (CP's) railway and a new rail loop to be used for loading and unloading rail cars. The proposed project also includes construction of an offloading building to be used for sand sorting and storage. A paved parking area would be constructed to accommodate incoming and outgoing trucks as well as approximately 20 daily USS employees. The facility would be constructed on land owned by CP and under easement to USS. Both the new rail and loading facility would be located within an approximately 330 acre project area.

On behalf of US Silica, Barr Engineering performed a desktop threatened and endangered species review to determine the potential for adverse impacts to federally-listed species. The proposed project is located in an open area dominated by two habitat types: 1) herbaceous upland habitat comprised of grasses and forbs and 2) palustrine emergent wetlands containing grasses, forbs, and various hydrophytic vegetation. SWCA Environmental Consultants (SWCA) reviewed the USFWS county list of threatened and endangered species and at the time of the wetland delineation, confirmed via a random survey that no primary or secondary indications of listed species or suitable habitat were recorded.

A list of federally-listed species potentially occurring in the vicinity of the proposed project was obtained through the United States Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) online program on November 20, 2015. Nine species listed as threatened, endangered, or candidate were identified in the official species listed generated through the IPaC request:

Common Name	Scientific Name	Federal Status
Least Tern	Sterna antillarum	Endangered
Whooping Crane	Grus americana	Endangered
Pallid Sturgeon	Scaphirhynchus albus	Endangered
Gray Wolf	Canis lupus	Endangered
Piping Plover	Charadrius melodus	Threatened
Sprague's Pipit	Anthus spragueii	Candidate
Red Knot	Calidris canutus rufa	Threatened
Dakota Skipper	Hesperia dacotae	Threatened
Northern long-eared bat	Myotis septentrionalis	Threatened

In North Dakota, the least tern utilizes sparsely vegetated sandbars on the Missouri and Yellowstone Rivers. The proposed project is located in a well-vegetated area, approximately 18 miles northeast of the Missouri River (Lake Sakakawea) and approximately 95 miles from the Yellowstone River. Based on the lack of suitable least tern habitat in or near the project area, the proposed project would have no effect on the least tern.

Preferred whooping crane habitat consists of shallow wetlands characterized by cattails, bulrushes, and sedges. They can also be found foraging in upland areas, especially during migration periods. The proposed project is located within a migration corridor in which 75% of all confirmed whooping crane sightings in North Dakota have been observed. The project area contains multiple small, shallow wetland areas and is located near cropland that may serve as suitable foraging habitat. Whooping cranes are sensitive to human disturbance and are anticipated to avoid the project area during construction. The proposed disturbance and changes in habitat will not appreciably reduce the amount of habitat in the surrounding area and therefore the project is expected to have no effect on the whooping crane.

The pallid sturgeon inhabits large rivers with high turbidity and natural flow. Preferred habitat has a diversity of depths and velocities formed by braided channels, sandbars, islands, sand flats, and gravel bars. In North Dakota, pallid sturgeon can be found in the Missouri River (including Lake Sakakawea) and lower Yellowstone River. The proposed project is located in upland and emergent wetland habitat, approximately 18 miles northeast of the Missouri River and approximately 95 miles from the Yellowstone River. In addition, there are no open, flowing waterbodies in the project area that would serve as a direct flow path to these rivers. Based on

the lack of suitable habitat in or near the project area, the proposed project will have no effect on the pallid sturgeon.

Though an infrequent visitor in North Dakota, the gray wolf occasionally traverses the state from neighboring Minnesota, Montana or Manitoba, Canada. Habitat for the gray wolf in North Dakota includes forested areas in the north central and northeastern portions of the state. Due to a lack of forested habitat and the distance from other known gray wolf populations, the proposed project will have no effect on the gray wolf.

In the Northern Great Plains region, piping plovers inhabit barren sand and gravel shores of rivers and lakes, avoiding areas of dense vegetation. Nearly all lakes used by piping plovers in North Dakota are alkaline in nature and are sparsely vegetated. They also use barren river sandbars. In North Dakota, this type of habitat is found on the Missouri River (including Lake Sakakawea) and the Yellowstone River. The nearest designated critical habitat for the piping plover is an alkaline lake approximately 2 miles northeast of the project area. However, the proposed project is located in well-vegetated habitat surrounded by human disturbances (roadway and railroad), approximately 18 miles northeast of the Missouri River and 95 miles from the Yellowstone River. Based on the lack of suitable habitat in or near the project area, the proposed project would have no effect on the piping plover.

The Sprague's pipit is endemic to northern Great Plains native short to mixed grass prairie. They are less abundant in areas of introduced grasses than areas of native prairie. Generally, the Sprague's pipit prefers well-drained native grasslands with high plant species richness and diversity. Large, contiguous patches of native prairie are preferred. They rarely occur in cultivated lands and are uncommon on non-native planted pasturelands. The proposed project is located in in a small patch of habitat containing non-native species as well as wetlands. Due to the lack of preferred Sprague's pipit habitat; the proposed project is not anticipated to impact the Sprague's pipit.

The red knot is a migratory shorebird that breeds in the Canadian Arctic and passes through North Dakota during spring and fall migration. During migration, red knots typically utilize exposed mudflats and open sparsely vegetated areas as temporary stopover sites to rest and forage. Such areas are likely present on the Missouri River. Additionally, red knots are thought to use inland saline lakes as stopover habitat. The proposed project is located approximately 18 miles from the Missouri River and no saline lakes are present in the immediate project vicinity. Due to the lack of suitable stopover habitat, the project will have no effect on the red knot.

The Dakota skipper is found in native prairie habitat containing a high diversity of wildflower and grasses. Two primary habitat types are known for this species: A) low, wet prairie dominated by bluestem, wood lily, harebell, and smooth camas and B) upland dry prairie ridges and hillsides dominated by bluestem grasses, needlegrass, pale purple coneflower and upright coneflowers and blanketflower. Habitat within the project area is not high-quality native prairie and is not characteristic of either identified habitat type and therefore the project will have no effect on the Dakota skipper.

The northern long-eared bat roosts in trees greater than 3 inches in diameter that have loose or peeling bark, cavities, or crevices. Both live and dead trees are used for roosting. During winter, the northern long-eared bat hibernates in caves and mines. There are no trees located within the project area and a review of available data and satellite imagery does not indicate the presence of any hibernacula in the project vicinity. Due to the absence of roosting and hibernating habitat, the project will have no effect on the northern long-eared bat.

In summary, the proposed project would have no effect on any of the federally listed species identified in the project vicinity.



Wetland Delineation Report for the **USS Parshall Transload Facility**, Mountrail and Ward Counties, North Dakota

2168

Prepared for **Barr Engineering** 

Prepared by **SWCA Environmental Consultants** 

October 2015

## Wetland Delineation Report for the USS Parshall Transload Facility, Mountrail and Ward Counties, North Dakota

Prepared for:

**Barr Engineering** 

Prepared by:

#### Matt Keller, Natural Resources Specialist

Reviewed by:

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SWCA Project No. 34017

October 23, 2015

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- B Wetland Delineation Data Forms
- C Photographs of Survey Area

## **1.0 INTRODUCTION**

SWCA Environmental Consultants (SWCA) conducted a wetland delineation and habitat evaluation for threatened and endangered species in order to identify exclusion and avoidance areas as specified in Section 404 of the Clean Water Act. The investigation was conducted for Barr Engineering for the proposed USS Parshall Transload Facility, located 3 miles northwest of Makoti, North Dakota.

SWCA conducted field surveys on August 25 and 27, 2015, to determine the potential presence and extent of wetlands and waterbodies, including jurisdictional waters of the U.S., commonly referred to as wetland and ordinary high water mark (OHWM) delineations. Maps of the survey area and natural resource features identified during the field surveys are provided in Appendix A. Habitat evaluations were conducted simultaneously to identify any suitable habitat for threatened or endangered species within the project right-of-way.

This report describes the methodology used by SWCA's biologists to complete each of the aforementioned surveys; presents the results of the surveys; and provides SWCA's general recommendations.

The preliminary jurisdictional determinations made in this report indicate the "likely jurisdictional status" of each wetland based on connectivity to navigable waters of the U.S. The U.S. Army Corps of Engineers (USACE) has full discretion in determining the jurisdictional status of each wetland discussed in this report.

### 1.1 REGULATORY BACKGROUND

### 1.1.1 Clean Water Act, Section 404

Section 404 of the Clean Water Act prohibits the discharge of fill material into waters of the U.S., including certain wetlands, also known as jurisdictional waters, without a permit from the USACE.

## 2.0 METHODS

## 2.1 SURVEY AREA

Overall, northwest North Dakota is characterized by a moderate to cool climate, with cold, dry winters and mild to warm summers. Mean annual precipitation for the area is 14 to 16 inches (Bryce et al. 1998).

The proposed project is located in the Great Plains (level I ecoregion), West-central Semi-arid Prairies (level II ecoregion), Northwestern Glaciated Plains (level III ecoregion), and the Glaciated Dark Brown Prairie (level IV ecoregion). The Northwestern Glaciated Plains ecoregion contains brown clay loam soils and gravelly areas that were primarily derived from glacial drift (U.S. Geological Survey [USGS] 2014). Figure 1 provides an overview of the general topography within the survey area.



Figure 1. Project area overview depicting general topography in the survey area (photograph taken August 25, 2015).

The inventoried area is on the USGS Wabek (1980) and Makoti (1980) quadrangle. The inventoried area is located in Section 13, Township (T) 152 North (N), Range (R) 88 West (W), Mountrail County, North Dakota, and Section 18, T152N, R87W, Ward County, North Dakota. Vicinity and site layout maps are provided in Appendix A.

### 2.2 PRE-FIELD REVIEW

Prior to conducting field surveys, SWCA reviewed applicable National Wetlands Inventory (NWI) data as well as preliminary National Weather Service climatic data.

### 2.3 WETLANDS

NWI mapping for the region indicates the presence of wetlands in the project area (U.S. Fish and Wildlife Service [USFWS] 2015). SWCA biologists conducted wetland delineations in the survey area based on the principles and guidelines provided in the *Corps of Engineers Wetlands Determination Manual* (Manual) (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Determination Manual*: *Great Plains Region Version 2.0* (Supplement) (USACE 2010). According to the Manual, an area is a wetland if three specific wetland indicators—hydrophytic vegetation, wetland hydrology, and hydric soils—are present, with certain exceptions. All wetlands and waterbodies geographically referenced in the survey area during field survey are depicted on the site layout maps in Appendix A. Wetland delineation data forms are provided in Appendix B.

## 2.3.1 Hydrophytic Vegetation

Biologists recorded all plants in the vegetative community of the survey area based on the respective stratum in which each species is located. The Supplement defines a tree as a woody-stemmed plant with a trunk diameter at breast height of equal to or greater than 3 inches, regardless of height. The sapling and shrub stratum is composed of woody-stemmed plants with a trunk diameter at breast height 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.

SWCA recorded the binomial scientific name and percent cover of all plants within a 30-foot radius for the tree stratum, a 15-foot radius for the sapling/shrub stratum, a 5-foot radius for the herbaceous stratum, and a 30-foot radius for the woody vine stratum. SWCA biologists noted each plant species' respective USFWS indicator status (i.e., upland [UPL], facultative upland [FACU], facultative [FAC], facultative wetland [FACW], and obligate [OBL]). Vegetation communities met the hydrophytic vegetation criterion for wetlands if greater than 50% of dominant species had an indicator status of FAC, FACW, and OBL.

## 2.3.2 Wetland Hydrology

A wetland was determined to contain wetland hydrology if at least one primary indicator or at least two secondary indicators of wetland hydrology were present, as defined by the Manual and Supplement. Common hydrologic indicators include the presence of surface water, high water table, soil saturation, water marks on trees or other objects, sediment deposits, water-stained leaves, and oxidized rhizospheres on living roots.

### 2.3.3 Hydric Soil

Biologists recorded detailed notes regarding soil profiles including the hue, value, and chroma (i.e., color) of the soil (using Munsell Soil Color Charts); the depth and extent of that soil color within the entire soil profile; the concentration of any redoximorphic concentrations or depletions; and the texture of the soil at each depth where a color change was observed. Soil pits were excavated to a minimum depth of 20 inches at each data point. Common hydric soil indicators of the Northern Great Plains subregion include the presence of hydrogen sulfide gas in the soil pit, redox depressions, redox dark surfaces, and depleted matrix.

## 2.4 THREATENED AND ENDANGERED SPECIES

Prior to conducting field surveys, SWCA reviewed information obtained from the USFWS list of threatened and endangered species by North Dakota county (USFWS 2014a) regarding the presence of threatened or endangered species that may occur within the survey area. This document does not represent a comprehensive survey, but rather acknowledges the past and/or current presence of listed species. The lack of discovery of threatened or endangered species does not signify their non-existence within the area, but only that no primary or secondary indications of these species were recorded. SWCA completed a random survey for all listed species and suitable habitat. A line-of-sight binocular survey for raptor species was also conducted for a distance of approximately 0.5 mile. SWCA biologists noted all wildlife observed during the field survey. Wildlife sightings can involve primary observations (i.e., actual sighting of an animal) or secondary observations (i.e., observation of scat, tracks, or fur deposits).

#### 2.5 WATERBODIES

Waterbodies (i.e., ponds, creeks, streams, rivers) in the survey area were identified by the presence of an OHWM. Common identifiable indicators of an OHWM include open water or evidence of a clear, natural line visible on the bank; shelving; changes in soil characteristics; the destruction of terrestrial vegetation; the presence of litter and debris; and watermarks on structures that are inundated during normal high water conditions. The OHWM typically represents the potential limits of the USACE jurisdiction. Please note that the USACE has full discretion in determining the jurisdictional status of referenced wetlands and waterbodies.

SWCA classified streams as perennial, intermittent, or ephemeral based on field observations. During a typical year, a perennial stream contains flowing water year-round, and the water table is located above the streambed. Groundwater is the primary water source for stream flow, while precipitation runoff is supplemental. Biologists classified streams that showed significant flow during the field survey. Additionally, USGS topographic maps were used as reference.

An intermittent stream has flowing water for only portions of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral streambeds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

#### 2.6 MAPPING

The boundaries of each wetland and waterbody were geographically recorded using a Trimble GeoXT global positioning system (GPS) unit. The aforementioned GPS unit is capable of recording geographic data with sub-meter accuracy. SWCA used Universal Transverse Mercator Zone 13 North as the projected coordinate system and North American Datum 1983 as the datum. Esri ArcGIS 10.0 software was used to analyze recorded features, calculate areas, and generate the maps provided in Appendix A. Please note that all data collected using the GPS unit and displayed on the attached maps are for review purposes only and do not represent a professional civil survey.

## 3.0 **RESULTS**

#### 3.1 VEGETATION

During the field survey, SWCA biologists identified two general types of vegetative communities in the survey area: herbaceous upland and palustrine emergent (PEM) wetland. PEM wetlands are characterized by the presence of herbaceous hydrophytic or submergent aquatic macrophytes. Photographs of the survey area are provided in Appendix C.

Vegetation communities met the hydrophytic vegetation criterion for wetlands if greater than 50% of dominant species had an indicator status of FAC, FACW, or OBL. The upland communities failed to meet at least one of the three assessed wetland criteria.

#### 3.1.1 Herbaceous Upland

The herbaceous upland community consists of areas dominated by non-woody vegetation such as grasses and forbs. Vegetation in the project area consisted of native and non-native grasses and forbs, including field sow thistle (*Sonchus arvensis*), white heath aster (*Symphyotrichum ericoides*), Canada thistle (*Cirsium arvense*), smooth brome (*Bromus inermis*), white clover (*Trifolium repens*), and intermediate quackgrass (*Thinopyrum intermedium*).

#### 3.1.2 Hydrophytic Vegetation

Aquatic vegetation species confirmed during the survey included cascade reedgrass (*Calamagrostis tweedyi*), freshwater cordgrass (*Spartina pectinata*), American sloughgrass (*Beckmannia syzigachne*), foxtail barley (*Hordeum jubatum*), western dock (*Rumex occidentalis*), broadleaf cattail (*Typha latifolia*), creeping spikerush (*Eleocharis fallax*), stinging nettle (*Urtica dioica*), and water smartweed (*Persicaria amphibian*).

### 3.2 HYDROLOGY

Wetland communities observed during the determination effort displayed at least one primary or two secondary indicators of wetland hydrology, as defined by the Manual and Supplement. Upland communities either failed to display hydrologic indicators or failed to meet the hydrophytic vegetation and hydric soils criterion, as defined by the Manual and Supplement. Common indicators of wetland hydrology observed during field surveys include Saturation (A3), Drainage Patterns (B10), Geomorphic Position (D2), and FAC-Neutral Test (D5).

According to National Weather Service preliminary climatological data for Williston, North Dakota, located approximately 100 miles northwest of the project area, 4.27 inches of precipitation were recorded from June 1 through August 27, 2015 (Table 1). This amount is 2.07 inches below normal for this time period.

Month	Recorded Precipitation (inches)	Normal Precipitation (inches)	Difference (inches)
June 2015	1.90	2.52	-0.62
July 2015	1.55	2.54	-0.99
August 1–27, 2015	0.82	1.28	-0.46
Total	4.27	6.34	-2.07

# Table 1. Monthly Recorded Rainfall at the National Weather Service Station in<br/>Williston, North Dakota

Source: National Oceanic and Atmospheric Administration 2014.

#### 3.3 WETLANDS

During the field survey, SWCA recorded 16 seasonal PEM wetlands (WET1–WET16) totaling approximately 14.54 acres in the survey area (Table 2). Photographs of the wetlands are provided in Appendix C.

Feature ID	Associated	····· · · · · · · · · · · · · · · · ·		Total Size
reature ID	Sampling Point	Latitude	Longitude	(acres)
WET1*	DP1W	47.980236	-101.869784	4.82
	DP2U	47.980216	-101.869853	
WET2*	DP3W	47.980453	-101.872302	0.24
	DP4U	47.980478	-101.877231	
WET3*	DP5W	47.978863	-101.872831	0.06
	DP6U	47.978887	-101.872791	
WET4*	DP10W	47.979448	-101.877225	5.56
	DP11U	47.979468	-101.877122	
WET5*	DP14W	47.979282	-101.882101	1.09
	DP15U	47.979236	-101.882162	
WET6*	DP18W	47.980712	-101.980712	0.01
	DP19U	47.980682	-101.882004	
WET7*	DP20W	47.981786	-101.88228	0.25
	DP21U	47.981735	-101.882253	
WET8*	DP22W	47.981729	-101.896399	0.21
	DP23U	47.981702	-101.876405	
WET9*	DP24W	47.982353	-101.876032	0.28
	DP25U	47.982320	-101.876060	
WET10*	DP26W	47.983249	-101.876038	0.33
	DP27U	47.983289	-101.876047	
WET11*	DP28W	47.983649	-101.875973	0.13
	DP29U	47.983628	-101.875913	

 Table 2. Palustrine Emergent Wetland Acreage in the Survey Area

Feature ID	Associated	Associated Sample Point Location		Total Size
reature ID	Sampling Point	Latitude	Longitude	(acres)
WET12*	DP30W	47.984325	-101.878045	0.18
	DP31U	47.984295	-101878049	
WET13*	DP32W	47.985557	-101.881681	0.85
	DP33U	47.985517	-101.881611	
WET14*	DP34W	47.984304	-101.881637	0.25
	DP35U	47.984326	-101.881665	
WET15*	DP37W	47.983015	-101.877842	0.10
	DP38U	47.982990	-101.877900	
WET16*	DP40W	47.981986	-101.874762	0.18
	DP41U	47.982022	-101.874708	]
Total				14.54

\* National Wetlands Inventory (NWI) wetland

#### 3.3.1 Wetland 1

Wetland 1, associated with DP1W and DP2U, is a seasonal depression wetland in the northern extent of the survey area. Photographs of Wetland 1 are provided in Appendix C. Based on the delineation, 4.82 acres of this PEM wetland fall within the survey boundary. The wetland is likely jurisdictional due to connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 1 included reed canarygrass (*Phalaris arundinacea*) (FAC) and water smartweed (OBL). According to the Natural Resources Conservation Service (NRCS 2014), the soil map units in this area are Hamerly loam, 0% to 3% slopes, and Parnell silty clay loam, 0% to 1% slopes. Hydric soil indicators recorded at Wetland 1 during the survey included depleted below dark surface (A11) and redox depressions (F8). Soil samples were loamy sand. Primary indicators of wetland hydrology observed at Wetland 1 were salt crust (B11), water-stained leaves (B9), and oxidized rhizospheres on living roots (C3). The secondary wetland hydrology indicator observed in the field was geomorphic position (D2).

### 3.3.2 Wetland 2

Wetland 2, associated with DP3W and DP4U, is a seasonal depression wetland in the central extent of the survey area. Photographs of Wetland 2 are provided in Appendix C. Based on the delineation, 0.24 acre of this PEM wetland falls within the survey boundary. The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 2 included cascade reedgrass (FAC), Canada thistle (FACU), foxtail barley (FACW), western dock (OBL), broadleaf cattail (OBL), and water smartweed (OBL). According to the NRCS (2014), the soil map unit in this area is Williams-Bowbells loams, 3% to 6% slopes. The hydric soil indicator recorded at Wetland 2 during the survey was redox depressions (F8). Soil samples were clay loam and loamy sand. The primary indicator of

wetland hydrology observed at Wetland 2 was water stained leaves (B9). The secondary wetland hydrology indicator observed in the field was geomorphic position (D2).

### 3.3.3 Wetland 3

Wetland 3, associated with DP5W and DP6U, is a seasonal depression wetland in the southern extent of the survey area. Photographs of Wetland 3 are provided in Appendix C. Based on the delineation, 0.06 acre of this PEM wetland falls within the survey boundary. The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 3 included reed canarygrass (FACW) and western dock (OBL). According to the NRCS (2014), the soil map unit in this area is Williams-Bowbells loams, 3% to 6% slopes. The hydric soil indicator recorded at Wetland 3 during the survey was redox depressions (F8). Soil samples were loam and clay loam. The primary indicator of wetland hydrology observed at Wetland 3 was water stained leaves (B9). Secondary wetland hydrology indicators observed in the field were geomorphic position (D2) and FAC-Neutral test (D5).

## **3.3.4 Wetland 4**

Wetland 4, associated with DP10W and DP11U, is a permanent depression wetland in the central extent of the survey area. Photographs of Wetland 4 are provided in Appendix C. Based on the delineation, 5.56 acres of this PEM wetland fall within the survey boundary. The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 4 included cascade reedgrass (FAC), freshwater cordgrass (FACW), and broadleaf cattail (OBL). According to the NRCS (2014), the soil map unit in this area is Tonka silt loam, 0% to 1% slopes. Hydric soil indicators recorded at Wetland 4 during the survey included black histic (A3), thick dark surface (A12), and sandy mucky mineral (S1). Soil samples were clay loam. Primary indicators of wetland hydrology observed at Wetland 4 were inundation visible on aerial imagery (B7) and saturation (A3). Secondary wetland hydrology indicators observed in the field were geomorphic position (D2) and saturation visible on aerial imagery (C9).

## 3.3.5 Wetland 5

Wetland 5, associated with DP14W and DP15U, is a seasonal depression wetland in the western extent of the survey area. Photographs of Wetland 5 are provided in Appendix C. Based on the delineation, 1.09 acres of this PEM wetland fall within the survey boundary. The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 5 included creeping spikerush (OBL), water smartweed (OBL), American sloughgrass (OBL), western dock (OBL), and broadleaf cattail (OBL). According to the NRCS (2014), the soil map unit in this area is Tonka silt loam, 0% to 1% slopes. Hydric soil indicators recorded at Wetland 5 during the survey included depleted below dark surface

(A11) and redox depressions (F8). Soil samples were silty clay loam. Primary indicators of wetland hydrology observed at Wetland 5 were inundation visible on aerial imagery (B7) and oxidized rhizospheres on living roots (C3). Secondary wetland hydrology indicators observed in the field were geomorphic position (D2) and saturation visible on aerial imagery (C9).

### **3.3.6 Wetland 6**

Wetland 6, associated with DP18W and DP19U, is a seasonal depression wetland in the western extent of the survey area. Photographs of Wetland 6 are provided in Appendix C. Based on the delineation, 0.01 acre of this PEM wetland falls within the survey boundary. The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 6 included field sow thistle (FAC), Canada thistle (FACU), and broadleaf cattail (OBL). According to the NRCS (2014), the soil map unit in this area is Tonka silt loam, 0% to 1% slopes. The hydric soil indicator recorded at Wetland 6 during the survey was redox depressions (F8). Soil samples were silty clay loam. No primary indicators of wetland hydrology were observed at Wetland 6. Secondary wetland hydrology indicators observed in the field were geomorphic position (D2) and FAC-Neutral test (D5).

### **3.3.7 Wetland 7**

Wetland 7, associated with DP20W and DP21U, is a seasonal depression wetland in the western extent of the survey area. Photographs of Wetland 7 are provided in Appendix C. Based on the delineation, 0.25 acre of this PEM wetland falls within the survey boundary. The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 7 included water smartweed (OBL), reed canarygrass (FACW), freshwater cordgrass (FACW), and broadleaf cattail (OBL). According to the NRCS (2014), the soil map unit in this area is Hamerly-Tonka complex, 0% to 3% slopes. The hydric soil indicator recorded at Wetland 7 during the survey was redox depressions (F8). Soil samples were silty loam. The primary indicator of wetland hydrology observed at Wetland 7 was inundation visible on aerial imagery (B7). Secondary wetland hydrology indicators observed in the field were geomorphic position (D2), saturation visible on aerial imagery (C9) and FAC-Neutral test (D5).

### 3.3.8 Wetland 8

Wetland 8, associated with DP22W and DP23U, is a seasonal depression wetland in the central extent of the survey area. Photographs of Wetland 8 are provided in Appendix C. Based on the delineation, 0.21 acre of this PEM wetland falls within the survey boundary. The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 8 included reed canarygrass (FACW), Canada thistle (FACU), field sow thistle (FAC), western dock (OBL), and broadleaf cattail (OBL). According to the NRCS (2014), the soil map units in this area are Hamerly-Tonka complex, 0% to 3% slopes, and

Williams-Bowbells loams, 3% to 6% slopes. The hydric soil indicator recorded at Wetland 8 during the survey was redox depressions (F8). Soil samples were silty loam and silty clay. The primary indicator of wetland hydrology observed at Wetland 8 was inundation visible on aerial imagery (B7). Secondary wetland hydrology indicators observed in the field were geomorphic position (D2) and saturation visible on aerial imagery (C9).

### 3.3.9 Wetland 9

Wetland 9, associated with DP24W and DP25U, is a seasonal depression wetland in the northern extent of the survey area. Photographs of Wetland 9 are provided in Appendix C. Based on the delineation, 0.28 acre of this PEM wetland falls within the survey boundary. The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 9 included water smartweed (OBL), reed canarygrass (FACW), freshwater cordgrass (FACW), broadleaf cattail (OBL), and American sloughgrass (OBL). According to the NRCS (2014), the soil map unit in this area is Hamerly-Tonka complex, 0% to 3% slopes. The hydric soil indicator recorded at Wetland 9 during the survey was redox depressions (F8). Soil samples were silty loam. The primary indicator of wetland hydrology observed at Wetland 9 was inundation visible on aerial imagery (B7). Secondary wetland hydrology indicators observed in the field were geomorphic position (D2) and saturation visible on aerial imagery (C9).

## 3.3.10 Wetland 10

Wetland 10, associated with DP26W and DP27U, is a seasonal depression wetland in the northern extent of the survey area. Photographs of Wetland 10 are provided in Appendix C. Based on the delineation, 0.33 acre of this PEM wetland falls within the survey boundary. The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 10 included broadleaf cattail (OBL), foxtail barley (FACW), western dock (OBL), and stinging nettle (FAC). According to the NRCS (2014), the soil map unit in this area is Hamerly-Tonka complex, 0% to 3% slopes. The hydric soil indicator recorded at Wetland 10 during the survey was redox depressions (F8). Soil samples were loam. The primary indicator of wetland hydrology observed at Wetland 10 was inundation visible on aerial imagery (B7). Secondary wetland hydrology indicators observed in the field were geomorphic position (D2) and saturation visible on aerial imagery (C9).

## 3.3.11 Wetland 11

Wetland 11, associated with DP28W and DP29U, is a seasonal depression wetland in the northern extent of the survey area. Photographs of Wetland 11 are provided in Appendix C. Based on the delineation, 0.13 acre of this PEM wetland falls within the survey boundary. The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 11 included reed canarygrass (FACW), broadleaf cattail (OBL), field sow thistle (FAC), and white heath aster (FACU). According to the NRCS (2014), the soil map unit in this area is Hamerly-Tonka complex, 0% to 3% slopes. The hydric soil indicator recorded at Wetland 11 during the survey was redox depressions (F8). Soil samples were clay and clay loam. The primary indicator of wetland hydrology observed at Wetland 11 was inundation visible on aerial imagery (B7). Secondary wetland hydrology indicators observed in the field were geomorphic position (D2) and saturation visible on aerial imagery (C9).

### 3.3.12 Wetland 12

Wetland 12, associated with DP30W and DP31U, is a seasonal depression wetland in the northern extent of the survey area. Photographs of Wetland 12 are provided in Appendix C. Based on the delineation, 0.18 acre of this PEM wetland falls within the survey boundary. The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 12 included reed canarygrass (FACW), broadleaf cattail (OBL), and water smartweed (OBL). According to the NRCS (2014), the soil map units in this area are Williams-Bowbells loams, 0% to 3% slopes, and Williams-Zahl-Zahill complex, 6% to 9% slopes. The hydric soil indicator recorded at Wetland 12 during the survey was redox depressions (F8). Soil samples were clay loam and sandy clay loam. The primary indicator of wetland hydrology observed at Wetland 12 was inundation visible on aerial imagery (B7). Secondary wetland hydrology indicators observed in the field were geomorphic position (D2) and saturation visible on aerial imagery (C9).

#### 3.3.13 Wetland 13

Wetland 13, associated with DP32W and DP33U, is a seasonal depression wetland in the northwest corner of the survey area. Photographs of Wetland 13 are provided in Appendix C. Based on the delineation, 0.85 acre of this PEM wetland falls within the survey boundary. The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 13 included broadleaf cattail (OBL), reed canarygrass (FACW), and Baltic rush (*Juncus baliticus*) (FACW). According to the NRCS (2014), the soil map unit in this area is Tonka silt loam, 0% to 1% slopes. The hydric soil indicator recorded at Wetland 13 during the survey was redox depressions (F8). Soil samples were loam. Primary indicators of wetland hydrology observed at Wetland 13 were inundation visible on aerial imagery (B7) and algal mat or crust (B4). Secondary wetland hydrology indicators observed in the field were geomorphic position (D2), saturation visible on aerial imagery (C9), and sparsely vegetated concave surface (B8).

### 3.3.14 Wetland 14

Wetland 14, associated with DP34W and DP35U, is a seasonal depression wetland in the northwestern extent of the survey area. Photographs of Wetland 14 are provided in Appendix C. Based on the delineation, 0.25 acre of this PEM wetland falls within the survey boundary.

The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 14 included broadleaf cattail (OBL). According to the NRCS (2014), the soil map unit in this area is Hamerly-Tonka complex, 0% to 3% slopes. The hydric soil indicator recorded at Wetland 14 during the survey was redox depressions (F8). Soil samples were loam. The primary indicator of wetland hydrology observed at Wetland 14 was inundation visible on aerial imagery (B7). Secondary wetland hydrology indicators observed in the field were geomorphic position (D2) and saturation visible on aerial imagery (C9).

#### 3.3.15 Wetland 15

Wetland 15, associated with DP37W and DP38U, is a seasonal depression wetland in the northern extent of the survey area. Photographs of Wetland 15 are provided in Appendix C. Based on the delineation, 0.10 acre of this PEM wetland falls within the survey boundary. The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 15 included broadleaf cattail (OBL), reed canarygrass (FACW), western dock (OBL), and field sow thistle (FAC). According to the NRCS (2014), the soil map unit in this area is Williams-Bowbells loams, 0% to 3% slopes. The hydric soil indicator recorded at Wetland 15 during the survey was redox depressions (F8). Soil samples were loam. No primary indicators of wetland hydrology were observed at Wetland 15. Secondary wetland hydrology indicators observed in the field were geomorphic position (D2) and saturation visible on aerial imagery (C9).

#### 3.3.16 Wetland 16

Wetland 16, associated with DP40W and DP41U, is a seasonal depression wetland in the central extent of the survey area. Photographs of Wetland 16 are provided in Appendix C. Based on the delineation, 0.18 acre of this PEM wetland falls within the survey boundary. The wetland is likely non-jurisdictional due to lack of connectivity to navigable waters of the U.S.; however, the USACE has the final authority to determine if the wetland is jurisdictional.

Vegetation in Wetland 16 included reed canarygrass (FACW), Canada thistle (FACU), and field sow thistle (FAC). According to the NRCS (2014), the soil map unit in this area is Williams-Bowbells loams, 3% to 6% slopes. The hydric soil indicator recorded at Wetland 16 during the survey was redox depressions (F8). Soil samples were loam and silty clay loam. The primary indicator of wetland hydrology observed at Wetland 16 was inundation visible on aerial imagery (B7). Secondary wetland hydrology indicators observed in the field were geomorphic position (D2) and saturation visible on aerial imagery (C9).

### 3.4 WATERBODIES

According to the USGS topographic maps, no waterbodies are in the survey area. Biologists did not observe a stream with an OHWM in the survey area (see maps in Appendix A).

## 3.5 SOILS

Eight soil types are present in the survey area, based on NRCS mapping (NRCS 2014). The survey area analyzed for soils covers the project area (Table 3). The soil component descriptions below Table 3 represent all soil series found in the survey area (NRCS 2014).

Soil Types	Map Unit Symbol	Slopes (%)	Acres within the Survey Area	Percent within Map Unit
Hamerly-Tonka complex	C272A	0–3	18.07	8.57
Hamerly loam	C270A	0–3	8.54	4.04
Tonka silt loam	C2A	0-1	17.91	8.48
Williams-Bowbells loams	C210A	0–3	10.81	5.11
Williams-Bowbells loams	C210B	3–6	93.84	44.46
Williams-Zahl-Zahill complex	C132C	6–9	54.88	26.00
Zahl-Williams loams	C135D	9–15	4.67	2.21
Parnell silty clay loam	C3A	0-1	2.37	1.13
Total			211.09	100.00

Table 3. Natural Resources Conservation Service-Derived Soil Series in the Survey Area

Source: Natural Resources Conservation Service 2014

## 3.5.1 Hamerly

The Hamerly series consists of very deep, somewhat poorly drained soils that formed in calcareous loamy till. Permeability is moderate in the upper horizons and moderate or moderately slow in the lower horizons. These soils are on flats on lake plains, on convex slopes surrounding shallow depressions, and on slight rises on till plains. They have slopes ranging from 0 to 3 percent. The mean annual precipitation found throughout the spatial extent of this soil type is 19 inches and the mean annual air temperature is 42 degrees Fahrenheit (°F). Cultivated areas are used for growing small grains, flax, hay, and pasture. Native vegetation is green needlegrass (*Nasella viridula*), little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), and western wheatgrass (*Pascopyrum smithii*) (NRCS 2014).

## 3.5.2 Tonka

The Tonka series consists of very deep, poorly drained, slowly permeable soils that formed in local alluvium over till or glaciolacustrine deposits. These soils are in closed basins and depressions on till and glacial lake plains and have slopes of 0 to 1 percent. The mean annual precipitation found throughout the spatial extent of this soil type is 20 inches and mean annual air temperature is 42°F. These soils are used for small grains, hay, and pasture. Native vegetation is tall grasses, sedges (*Carex* spp.), and rushes (*Juncus* spp.) (NRCS 2014).

### 3.5.3 Williams

The Williams series consists of very deep, slowly permeable, well-drained soils found on glacial till plains and moraines with slopes at approximately 0 to 35 percent. The mean annual

precipitation found throughout the spatial extent of this soil type is approximately 14 inches and mean annual air temperature is approximately 42°F. This soil type is largely used for cultivation. Native vegetation species common to this soil type include western wheatgrass, needle and thread (*Hesperostipa comata*), blue grama (*Bouteloua gracilis*), and green needlegrass (NRCS 2014).

#### 3.5.4 Bowbells

The Bowbells series consists of very deep, well- and moderately well-drained soils found on glacial till plains and moraines. Permeability is moderate in the upper portions and moderately slow to slow in the substratum. Slopes range from approximately 0 to 9 percent. The mean annual precipitation found throughout the spatial extent of this soil type is approximately 14 inches and mean annual air temperature is approximately 42°F. This soil type is used for cultivation of small grains. Native vegetation species historically common to this soil type includes western wheatgrass, green needlegrass, and big bluestem (NRCS 2014).

### 3.5.5 Zahl

The Zahl series consists of very deep, slowly permeable, well-drained soils found on glacial till plains, moraines, and valley side slopes at approximately 1 to 60 percent. The mean annual precipitation found throughout the spatial extent of this soil type is approximately 14 inches and mean annual air temperature is approximately 40°F. This soil type is largely used for rangeland foraging. Native vegetation species common to this soil type include western wheatgrass, little bluestem, and needle and thread (NRCS 2014).

### 3.5.6 Zahill

The Zahill series consists of very deep, well-drained soils that formed in till and are found on till plains, hills, moraines, and escarpments. Slopes are 0 to 65 percent. The mean annual precipitation found throughout the spatial extent of this soil type is approximately 13 inches and mean annual air temperature is approximately 42°F. This soil type is used in mainly range and dryland crops. Native vegetation species common to this soil type include western wheatgrass, needle and thread, green needlegrass, little bluestem, prairie sandreed (*Calamovilfa longifolia*), bluebunch wheatgrass (*Pseudoroegneria spicata*), prairie junegrass (*Koeleria macrantha*), blue grama, sedges, and other forbs (NRCS 2014).

### 3.5.7 Parnell

The Parnell series consists of very deep, very poorly and poorly drained soils that formed in water-sorted sediments from glacial drift in depressions, swales, and drainageways on glacial moraines. These soils have slow permeability. Slopes range from 0 to 3 percent. The mean annual precipitation found throughout the spatial extent of this soil type is about 20 inches and mean annual air temperature is about 41°F. Most undrained areas are in native vegetation with some areas used for pasture or hay land. Drained areas are typically used to grow corn (*Zea mays*), soybeans (*Glycine max*), and small grain. Native vegetation is mostly marsh grasses, reeds, and sedges (NRCS 2014).

# **3.6 THREATENED AND ENDANGERED SPECIES OCCURRENCE AND HABITAT**

Several wildlife species that may exist or have been known to exist in Mountrail and Ward Counties are listed as threatened or endangered under the Endangered Species Act (16 United States Code 1531 et seq.) (ESA). According to the USFWS, listed species in Mountrail and Ward Counties, North Dakota, include the gray wolf (*Canis lupus*), whooping crane (*Grus americana*), piping plover (*Charadrius melodus*) and its Designated Critical Habitat, Dakota skipper (*Hesperia dacotae*), rufa red knot (*Calidris canutus*), and northern long-eared bat (*Myotis septentrionalis*), as well as a federal candidate species, the Sprague's pipit (*Anthus spragueii*). Additionally, the pallid sturgeon (*Scaphirhynchus albus*) and interior least tern (*Sterna antillarum*) are only listed in Mountrail County. A life history and biological review of the inhabitance of the species within the project area are described in detail within the following sections.

SWCA conducted a threatened and endangered species survey concurrently with the wetland delineations. Biologists did not observe any primary (i.e., actual sighting) or secondary (i.e., tracks, scat, feathers, fur) indicators of the presence of threatened or endangered species. However, a lack of observations does not mean that some or all of the threatened or endangered species known to occur in Mountrail and Ward Counties may not use areas in the vicinity that possess habitat components necessary to support those species.

If there is a federal nexus to the project, that is if there is any federal funding, or if any federal permits or licenses are required, a more formal effects analysis for federally listed species would be required.

### 3.6.1 Gray Wolf

### Federal Status: Endangered

The gray wolf, listed as endangered in the United States in 1978, was believed extirpated from North Dakota in the 1920s and 1930s, with only sporadic reports from the 1930s to present (Licht and Huffman 1996; USFWS 1978). The presence of wolves in most of North Dakota consists of occasional dispersing animals from Minnesota and Manitoba (Licht and Fritts 1994; Licht and Huffman 1996). Most documented gray wolf sightings within western North Dakota are believed to be young males seeking to establish territory (Hagen et al. 2005). The Turtle Mountain region of north-central North Dakota provides marginal habitat that may be able to support a very small population of wolves. The closest known pack of wolves is the Minnesota population, located approximately 17 miles (28 kilometers [km]) from the northeast corner of North Dakota.

The gray wolf uses a variety of habitats that support a large prey base, including montane and low-elevation forests, grasslands, and desert scrub (USFWS 2013a). Due to a lack of forested habitat and distance from Minnesota and Manitoba populations, as well as the troubled relationship between humans and wolves and the vulnerability of the latter to being shot in open habitats (Licht and Huffman 1996), the re-establishment of gray wolf populations in North Dakota is unlikely. Additionally, habitat fragmentation may further act as a barrier

against wolf recolonization in western North Dakota. Due to a lack of recent sightings and the habitat fragmentation within the area, the gray wolf is not expected to be within the project area.

#### **3.6.2** Whooping Crane

#### Federal Status: Endangered

The whooping crane was listed as endangered in 1970 in the United States by the USFWS and in 1978 in Canada. Historically, population declines were caused by shooting of individuals and destruction of nesting habitat in the prairies from agricultural development. Current threats to the species include habitat destruction, especially suitable wetland habitats that support breeding and nesting as well as feeding and roosting during their fall and spring migration (Canadian Wildlife Service and USFWS 2007).

The July 2010 total wild population was estimated at 383 (USFWS 2013b). Only one selfsustaining wild population, the Aransas-Wood Buffalo National Park population, exists and nests in Wood Buffalo National Park and adjacent areas in Canada, where approximately 83% of the wild nesting sites occur (Canadian Wildlife Service and USFWS 2007; USFWS 2013b). McKenzie County, including the project area, is within the primary migratory flyway of whooping cranes.

Whooping cranes probe the soil subsurface with their bills for foods on the soil or vegetation substrate (Canadian Wildlife Service and USFWS 2007). Whooping cranes are omnivores, and foods typically include agricultural grains, as well as insects, frogs, rodents, small birds, minnows, berries, and plant tubers. The majority of time spent during migration is spent feeding in harvested grain fields (Canadian Wildlife Service and USFWS 2007). Studies indicate that whooping cranes use a variety of habitats during migration, in addition to cultivated croplands, and generally roost in small palustrine (marshy) wetlands within 0.6 mile (1 km) of suitable feeding areas (Howe 1987, 1989). Whooping cranes have been recorded in riverine habitats during their migration, with eight sightings along the Missouri River in North Dakota (Canadian Wildlife Service and USFWS 2007:18). In these cases, they roost on submerged sandbars in wide, unobstructed channels that are isolated from human disturbance (Armbruster 1990).

Suitable whooping crane foraging habitat (i.e., cultivated cropland and wetlands >0.04 hectare) were not observed within the survey area. The project area is located within the delineated 80% migration corridor for the whooping crane. The nearest verified sighting occurred approximately 2.88 miles east of the proposed project (unpublished data, M. Tacha, USFWS). The surface disturbance and changes to vegetation due to the project are unlikely to adversely affect whooping cranes. However, to minimize potential impacts to whooping crane is sighted within 1 mile of the construction area.

#### 3.6.3 Interior Least Tern

#### Federal Status: Endangered

The interior population of the least tern is listed as endangered by the USFWS (1985a). This bird is the smallest member of the gull and tern family, measuring approximately 9 inches long. Terns remain near flowing water, where they feed by hovering over and diving into standing or flowing water to catch small fish (USFWS 2013c).

The interior population of least terns breeds in isolated areas along the Missouri, Mississippi, Ohio, Red, and Rio Grande river systems, where they nest in small colonies. From late April to August, terns nest in a shallow hole scraped in an open sandy area, gravel patch, or exposed flat and bare sandbars along rivers, sand and gravel pits, or lake and reservoir shorelines. The adults continue to care for chicks after they hatch. Least terns in North Dakota often will be found sharing sandbars with the piping plover, a threatened species (USFWS 2013c).

Census data indicate that more than 8,000 least terns comprise the interior population. In North Dakota, the least tern is found mainly on the Missouri River from Garrison Dam south to Lake Oahe and on the Missouri and Yellowstone Rivers upstream of Lake Sakakawea (USFWS 1990a, 2013c). Approximately 100 pairs breed in North Dakota (USFWS 2013c). Details of their migration are unknown, but their winter range is reported to include the Gulf of Mexico and Caribbean Islands (USFWS 1990a, 2013c).

Loss of suitable breeding and nesting habitat for terns has resulted from dam construction and river channelization on major rivers throughout the Mississippi, Missouri, and Rio Grande river systems. River and reservoir changes have led to reduced sandbar formation and other shoreline habitats for breeding, resulting in population declines. In addition, other human shoreline disturbances affect the species (USFWS 1990a). Critical habitat has not been designated for the species (USFWS 2013c). Current conservation strategies include identification and avoidance of known nesting areas, public education, and limiting or preventing shoreline disturbances near nests and hatched chicks (USFWS 2013c).

Suitable shoreline habitat on Lake Sakakawea for breeding and nesting terns occurs 18.2 miles west of the project location. Terns may visit wetlands and waterbodies off the lake that contain forage fish. The wetlands within the survey area are not generally suitable for foraging least tern due to the distance to their nesting habitat on Lake Sakakawea. Adverse effects from construction, operation, and reclamation of the project area are not expected.

#### 3.6.4 Pallid Sturgeon

### Federal Status: Endangered

The pallid sturgeon was listed as endangered in 1990 in the United States by the USFWS (1990b). The primary factor leading to the decline of this species is the alteration of habitat through river channelization, creation of impoundments, and alteration of flow regimes (USFWS 1990b). These alterations within the Missouri River have blocked movements to spawning, feeding, and rearing areas; destroyed spawning habitat; altered flow conditions, which can delay spawning cues; and reduced food sources by lowering productivity (USFWS 2007). The fundamental elements of pallid sturgeon habitat are defined as the bottom of swift

waters of large, turbid, free-flowing rivers with braided channels; dynamic flow patterns; flooding of terrestrial habitats; and extensive microhabitat diversity (USFWS 1990b).

Pallid sturgeon populations occur in the Missouri River below Fort Peck Dam to the headwaters of Lake Sakakawea and the lower Yellowstone River up the confluence of the Tongue River, Montana (USFWS 2007). This population consists of approximately 136 wild adult pallid sturgeon (USFWS 2007). Hatchery-reared sturgeon have also been stocked since 1998. The pallid sturgeon has been found to use the 15.5 miles (25 km) of riverine habitat that would be inundated by Lake Sakakawea at full pool (Bramblett 1996 per USFWS 2007a). Larval pallid sturgeon have also been found to drift into Lake Sakakawea. Although the majority of pallid sturgeon are found in the headwaters of Lake Sakakawea, the North Dakota Game and Fish Department has caught and released pallid sturgeon in nets set in 80 to 90 feet of water between the New Town and Van Hook areas. Based on this information, pallid sturgeon could be found throughout Lake Sakakawea (personal communication, email from Steve Krentz, Pallid Sturgeon Project Lead, USFWS, to SWCA, September 3, 2010).

Desktop analysis concluded that suitable pallid sturgeon habitat is not present in the project area. The survey area does not occur within the same watershed (hydrologic unit code 12) as Lake Sakakawea, and due to the approximate 18.2-mile distance from Lake Sakakawea, activities associated with the proposed project are not anticipated to adversely affect water quality and subsequently the pallid sturgeon.

#### 3.6.5 Piping Plover

### Federal Status: Threatened

The piping plover is a small shorebird that breeds only in three geographic regions of North America: the Atlantic Coast, the Northern Great Plains, and the Great Lakes. Piping plover populations were federally listed as threatened and endangered in 1985, with the Northern Great Plains and Atlantic Coast populations listed as threatened and the Great Lakes population listed as endangered (USFWS 1985b).

Plovers in the Great Plains make their nests on open, sparsely vegetated sand or gravel beaches adjacent to alkali wetlands, and on beaches, sand bars, and dredged material islands of major river systems (USFWS 2002, 2012). The shorelines of lakes of the Missouri River constitute significant nesting areas for the bird. Piping plovers nest on the ground, making shallow scrapes in the sand, which they line with small pebbles or rocks (USFWS 1988). Anthropogenic alterations of the landscape along rivers and lakes where piping plover nest have increased the number and type of predators, subsequently decreasing nest success and chick survival (USFWS 2002, 2012). The birds fly south by mid to late August to areas along the Texas coast and Mexico (USFWS 2002). The Northern Great Plains population has continued to decline despite federal listing, with population estimates of 1,500 breeding pairs in 1985 reduced to fewer than 1,100 in 1990. Low survival of adult birds has been identified as a factor (Root et al. 1992). Current conservation strategies include identification and preservation of known nesting sites, public education, and limiting or preventing shoreline disturbances near nests and hatched chicks (USFWS 1988, 2012).

Suitable shoreline habitat for breeding and nesting plovers does not occur within the project area and Lake Sakakawea is approximately 18.2 miles west from the proposed project area. The wetlands within the survey area are generally unsuitable for the piping plover. Activities associated with the construction, production, or reclamation of the proposed project area are not anticipated to adversely affect habitat for the piping plover.

#### **3.6.6 Piping Plover Designated Critical Habitat**

The USFWS has designated critical habitat for the Great Lakes and Northern Great Plains populations of piping plover (USFWS 2002). Designated critical habitat for the piping plover includes 183,422 acres and 1,207.5 river miles of habitat including the shoreline of Lake Sakakawea in Mountrail and McKenzie Counties, North Dakota (USFWS 2002).

The proposed project would not modify, alter, disturb, or affect the designated critical habitat for the piping plover.

#### 3.6.7 Dakota Skipper

#### Federal Status: Threatened

The Dakota skipper is a small butterfly with a 1-inch wingspan. The male wing ranges from a tawny orange to brown and the female wing is darker brown with tawny orange spots and faint white spots (USFWS 2011a). The Dakota skipper was found to be warranted for protection under the ESA, was precluded for higher-priority species in 1995, and was the subject of a proposed rule for listing as threatened under the ESA. On October 24, 2014, the USFWS determined a threatened species status for the Dakota skipper, and the final rule became effective November 24, 2014 (79 *Federal Register* 63672). The primary causes for decline in Dakota skipper populations include the loss or fragmentation of high-quality native prairie habitat due to overgrazing, conversion to agriculture, invasion by non-native plants, urbanization, and disruption of natural prairie fire cycles.

Dakota skipper dispersal is limited due to a short adult life span of 3 weeks (Dana 1991) and one annual flight per year. The Dakota skipper may disperse an average 0.6 mile (1 km) to an area that contains sufficient vegetative diversity and emigrants. Unless a site is within about 0.6 mile of an area that generates a sufficient number of emigrants, the species' extirpation from a site is likely permanent. Adult skippers were encountered in McKenzie County, North Dakota Units 11 and 12 during surveys in July 2014 (Royer et al. 2014).

Two habitat types have been described for Dakota skipper in North Dakota. 'Type A' habitat is low, wet-mesic prairie with little topographic relief occurring in near-shore glacial lake deposits (Royer and Marrone 1992). Three plant species dominate Type A habitat and include wood lily (*Lilium philadelphicum*), bluebell bellflower (*Campanula rotundifolia*), and mountain deathcamas (*Zigadenus elegans*) (McCabe 1981). 'Type B' habitat of the Dakota skipper occurs on rolling terrain over gravelly glacial moraine deposits and is dominated by big bluestem, little bluestem, and needlegrasses (*Stipa* spp.), and may include bluebell bellflower and wood lily (USFWS 2014b). Additionally, Type B habitat supports extensive stands of purple coneflower (*Echinacea angustifolia*), upright prairie coneflower (*Ratibida columnifera*), and common gaillardia (*Gaillardia artistata*) (USFWS 2014c).

A detailed vegetation survey specific to Dakota skipper habitat was conducted following the referenced protocol on July 16 and 17, 2015. The vegetation type in the project area was mixed-grass prairie, consisting of both native and non-native species. Dominant species observed within the project area included Kentucky bluegrass (*Poa pratensis*), crested wheatgrass (*Agropyron cristatum*), western wheatgrass, prairie junegrass, prairie sagewort (*Artemisia frigida*), and buffalograss (*Bouteloua dactyloides*).

Other species documented included little bluestem, needle and thread grass, green needlegrass, upright prairie coneflower, stiff sunflower (*Helianthus pauciflorus*), broom snakeweed (*Gutierrezia sarothrae*), silverleaf scurfpea (*Pediomelum argophyllum*), smooth brome, velvety goldenrod (*Solidago mollis*), northern bedstraw (*Gallium boreale*), alfalfa (*Medico sativa*), purple prairie clover (*Dalea purpurea*), common yarrow (*Achillea millefolium*), prickly pear (*Opuntia spp.*), tarragon (*Artemisia dracunculus*), purple coneflower, wavyleaf thistle (*Cirsium undulatum*), and American licorice (*Glycyrrhiza lepidota*).

Due to the lack of high-quality diverse native grasslands featuring the plant species necessary for the life requirements of larval and adult Dakota skippers, the project area does not contain suitable habitat for the Dakota skipper. The project area does not meet the vegetation requirement for either larvae habitat or adult foraging habitat.

#### 3.6.8 Rufa Red Knot

#### Federal Status: Threatened

The rufa red knot is a medium-sized shorebird approximately 9 to 11 inches tall with breeding plumage consisting of red around the face and a prominent stripe above the eye, breast, and upper belly and non-breeding plumage of dusky gray and white (Bureau of Indian Affairs 2014). The USFWS published a proposal to list the rufa red knot as threatened under the ESA in the *Federal Register* in September 2013 (78 *Federal Register* 60023). On December 11, 2014, the USFWS determined a threatened species status for the rufa red knot, and the final rule became effective on January 12, 2015 (79 *Federal Register* 73705).

The primary reasons for decline of this species are reduced food supplies in Delaware Bay due to commercial harvest of horseshoe crabs and areas of range loss due to rising sea levels, shorelines projects, and development (USFWS 2013d). The rufa red knot breeds in the Canadian Arctic and migrates 19,000 miles to winter on the U.S. Gulf Coast and in South America. The species generally occurs along the ocean coasts during migration, but a small number have been reported across the interior United States.

Suitable habitat along Lake Sakakawea is approximately 18.2 miles west from the nearest point of the project area. Activities associated with the construction or long-term use of the proposed project area are not anticipated to adversely affect suitable stopover habitat for the rufa red knot. The recorded wetlands for the proposed project likely would be considered unsuitable stopover habitat as the rufa red knot prefers sandy, gravel, or cobble beaches; tidal mudflats; salt marshes; shallow coastal impoundments; and lagoons for its migration habitat. Additionally, the recorded wetlands likely do not support the typical food source preferred by

the rufa red knot, which includes softer invertebrate prey: small fish, worms, invertebrates, and insects (USWFS 2013d). There is a low likelihood of occurrence of the rufa red knot in the project area, and the likelihood of any adverse effects due to disturbance from construction activities is extremely low.

#### 3.6.9 Northern Long-eared Bat

#### Federal Status: Threatened

On May 4, 2015, the USFWS listed the northern-long eared bat as threatened under the ESA (79 *Federal Register* 63672). USFWS also issued an interim rule pursuant to Section 4(d) of the ESA in conjunction with the final rule to list the species as threatened, which also took effect on May 4, 2015. For areas of the country not affected by whitenose syndrome (i.e., areas outside the 150-mile white-nose syndrome buffer zone), including all of North Dakota, the interim 4(d) rule exempts incidental take from certain activities. This medium-sized bat ranges across the eastern and north-central United States and all of the Canadian provinces (USFWS 2013e). Throughout most of this species' range, populations are patchily distributed. They emerge at dusk to fly through the understory of forested hillsides and ridges, feeding on moths, flies, leafhoppers, caddisflies, and beetles.

Most records of northern long-eared bats are from winter hibernacula surveys, with more than 780 hibernacula identified within the United States. No known hibernacula are located in North Dakota, due either to a lack of suitable hibernacula present or to a lack of survey efforts (USFWS 2013e). This bat species occupies a wide range of rocky and forested habitats. Suitable winter habitat contains large caves and mines (USFWS 2013f). Summer day roosts include abandoned buildings, bridges, hollow trees, stumps, under loose bark, and rock fissures (Jones and Choate 1978).

Northern long-eared bats are not known to occur in the project area, although species-specific surveys have not been conducted. Suitable winter habitat or suitable summer day roosts for northern long-eared bats does not occur within the project area. The likelihood of any adverse effects due to disturbance from construction activities is extremely low.

#### 3.6.10 Sprague's Pipit

### Federal Status: Candidate

Sprague's pipit is a small passerine, 10 to 15 centimeters long, endemic to the Northern Great Plains (USFWS 2011b). Sprague's pipit requires large tracts of unplowed native prairie habitat throughout its life cycle. Because native grasslands are disturbance-dependent, Sprague's pipit prefers grassland habitats that are regularly disturbed. The frequency of disturbance required for habitat maintenance depends on how quickly grasses grow to an intermediate height (4 to 12 inches) following a disturbance event.

In North Dakota, Sprague's pipit has been found in areas of moderate grazing. Sprague's pipits are sensitive to patch size and avoid edges between grasslands and other habitat features (USFWS 2011b). They may avoid non-grassland features including roads, trails, oil wells, croplands, woody vegetation, and wetlands. The Sprague's pipit is reported to stay up to 350 meters away from anthropogenic features such as roads, oil wells, and wind turbines (USFWS

2011b). The USFWS has estimated that each new oil well and associated road in North Dakota results in potential impacts to approximately 51 acres of pipit habitat due to avoidance and habitat fragmentation (USFWS 2011b). Because of increasing habitat fragmentation, especially by energy development, throughout the Sprague's pipit range and the loss of native prairie habitat, Sprague's pipit was listed as a Candidate Species under the ESA in 2010 (USFWS 2011b).

In North Dakota, Sprague's pipit breeds throughout the state except for the easternmost counties. During the breeding season the birds prefer large patches of well-drained, open native grassland with a minimum size of 358.3 acres (range = 170 to 776 acres). They have not been observed in areas smaller than 71.6 acres on their breeding grounds (USFWS 2011b).

Native prairie habitat with grasses of intermediate height does not occur within the project area. The proposed project is unlikely to directly affect habitat due to lack of adequate patch sizes required by the Sprague's pipit for breeding grounds in the immediate project area, but may indirectly contribute to reduced use of any nearby suitable grassland habitat patches within 350 meters of the proposed project.

### 3.7 MIGRATORY BIRDS, EAGLES, AND OTHER WILDLIFE

### 3.7.1 Migratory Birds

**Status:** Not listed, protected under the Migratory Bird Treaty Act

Suitable habitat for migratory birds exists in the entire survey area. Specifically, grassland nesting birds have the potential to occur and nest in the survey area, especially during the migratory bird breeding season between February 1 and July 15. If construction is conducted outside of the migratory bird nesting season (generally between February 1 and July 15), violations of the Migratory Bird Treaty Act are not likely to occur.

## 3.7.2 Bald Eagle

**Federal Status:** Delisted under the ESA in 2007; protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act

The bald eagle (*Haliaeetus leucocephalus*) feeds on fish and carrion and typically roosts in large trees near a water source. Bald eagle nesting habitat is typically any mature stands of conifer or cottonwood trees in association with rivers, streams, reservoirs, lakes, or any significant body of water. Bald eagles are usually observed along the Missouri River and Yellowstone River, but are also found in other locations across the state. Bald eagles may occur within or near the survey area; however, no bald eagles, nests, or nesting habitat were observed during the field surveys.

#### 3.7.3 Golden Eagle

**Federal Status:** Unlisted under the ESA; protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act

The golden eagle (*Aquila chrysaetos*) prefers habitat characterized by open prairie, plains, and forested areas. Usually, golden eagles can be found in proximity to badland cliffs which provide suitable nesting habitat. Golden eagles may occur within or near the survey area; however, no golden eagles, nests, or nesting habitat were observed during the field surveys.

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

- 1. No threatened or endangered species or their associated habitats were observed during the field surveys. Listed threatened and endangered species which occur in Mountrail and Ward Counties are not likely to be detrimentally impacted by construction activities.
- 2. SWCA biologists recorded approximately 14.54 acres of wetlands within the approximately 211.00-acre inventoried area.
- 3. One wetland is likely jurisdictional because of its connection with East Fork Shell Creek which is connected to Parshall Bay, Lake Sakakawea.
- 4. Portions of the 14.54 acres of PEM wetland *may* be temporarily or permanently impacted by future construction activities.
- 5. The USACE makes any final determination on the jurisdiction of a waterbody. If dredged or fill material is to be placed, including the side-casting of excavated material, a USACE permit under Section 404 of the Clean Water Act may be needed. SWCA recommends requesting an official Jurisdictional Determination be completed by the USACE.

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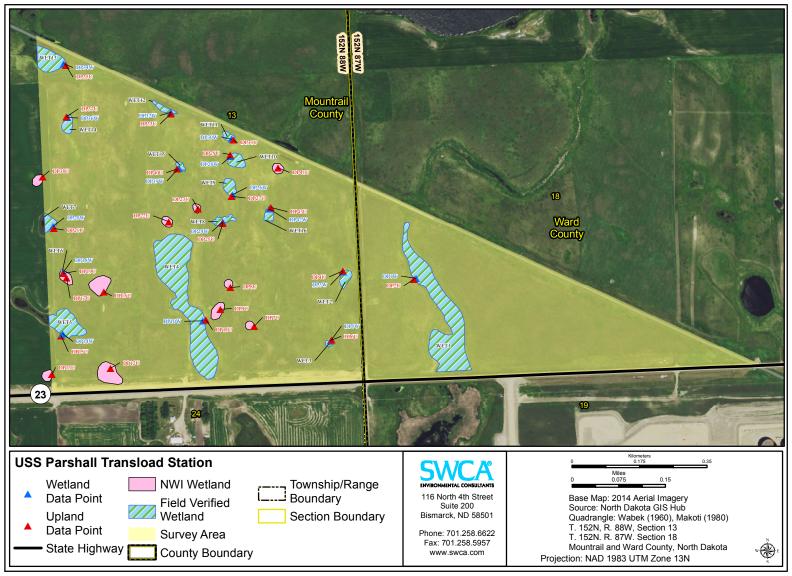
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# APPENDIX A Vicinity and Site Layout Maps





#### **USS Parshall Transload Facility**

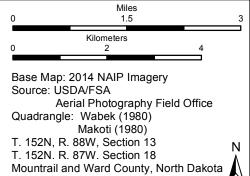
State Highway
 County Roads
 County Boundary
 Township/Range Boundary
 Study Area
 Section Boundary



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Projection: NAD 1983 UTM Zone 13N

# APPENDIX B

Wetland Delineation Data Forms

Project/Site: Parshall Transload Fa	cility	City/Cou	inty:		Makoti/ Ward	k	Sam	pling Da	te: 8	/25/2015
	, arr Engineerin		·			North		pling Poi		DP10W
Investigator(s): A Stegeman			Sec	tion, To	wnship, Range:			52N, 88\		
Landform (hillslope, terrace, etc.):	depression		Local re	elief (con	icave, convex, n	one):	Cond	cave	Slope (%)	: <5%
					Long:				Datum:	NAD83
Soil Map Unit Name:		onka silt loa				NWI clas				ЛCd
Are climatic/hydrologic conditions on the site to										
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydr								nt? Yes	X	No
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydr					if needed, expla			f	+-	
SUMMARY OF FINDINGS – Attach site	•	· ·	iing po		ations, trans	ects, imp	ortant	reautr	es, etc.	
Hydrophytic Vegetation Present? Yes				le the Sa	ampled Area					
Hydric Soil Present? Yes	X No				Wetland?	Yes	х	No		
Wetland Hydrology Present? Yes	X No					-				
Remarks:										
VEGETATION – Use scientific names o	-	Devices								
Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicat Status		Dominance Number of					
					That Are O		•		3	(A)
1		= Total Cov	ior		Total Num					
Sapling/Shrub Stratum (Plot size: <u>15</u>	-		vei		Species Act	ross All Stra	ata:		3	(B)
1					Percent of That Are O		•		100.0%	(A/B)
Hack Strature (Dist size: 5		= Total Cov	ver							
<u>Herb Stratum</u> (Plot size: <u>5</u> ) 1. <i>Phalaris arundinacea</i>	40%	Y	FAC	\\/	Prevalence	e Index Wo	rksheet			
2. Spartina pectinata	40%		FAC		Total % Co	ver of:		Mult	tiply by:	
3. Typha latifolia	20%	Y	OB		OBL specie	s	20%	x 1	20.0%	
4.					FACW spec	cies	80%	x 2	160.0%	
4	100%	= Total Cov	ver		FAC specie	s	0%	x 3	0.0%	
<u>Woody Vine Stratum</u> (Plot size: <u>30</u> )					FACU speci	ies	0%	x 4	0.0%	
					UPL specie		0%		0.0%	_
1		= Total Cov	ver							(D)
% Bare Ground in Herb Stratum	_				Column To		L00.0%	(A)	180%	(B)
					Prevaler	ice Index =	B/A =		1.80	_
					Hydrophyt	ic Vegetat	ion Indic	ators:		
					1 - Ra	pid Test fo	r Hydrop	hytic Ve	getation	
					Y 2 - Do	minance T	est if >5(	0%		
						evalence In				
									rovide sup	porting data
					in Rer	narks or or	n a seper	ate shee	t)	
					Proble	ematic Hyd	rophytic	: Vegetat	ion (Explai	n)
					Indicators of present, unle					ist be
					Hydrophyt Vegetatior Present?	n	es <u>X</u>	_No		
Remarks:										
Nettidi KS.										

SOIL

	Matrix				Features		— <b>.</b> .		-	
(inches)	Color:	%	Colo	or: %	Type:	Loc:	Text	ure:	Rema	rks:
0-20	10YR 2/1	100%					Clay	Loam		
	centration, D=Dep	letion RM=	-Reduced M	Aatrix CS=Cover	ed or Costed Sa	and Grains		Location:	PL=Pore Lining	M=Matrix
	dicators: (Applica						Indicators		natic Hydric So	
Histosol	• • • •		.,		eyed Matrix (S4	)		Muck (A9) <b>(L</b>	•	-
	oipedon (A2)			Sandy G	-	7			ox (A16) <b>(LRR F</b>	с н)
X Black Hi					Matrix (S6)			Surface (S7)		(d, 11)
	en Sulfide (A4)				lucky Mineral (F	1)			essions (F16)	
	d Layers (A5) <b>(LR</b>	R F)			leyed Matrix (F2				f MLRA 72 & 73	2)
	uck (A9) <b>(LRR F, G,</b>				l Matrix (F3)	-,	-	ed Vertic (F		
	d Below Dark Surf				ark Surface (F6)			arent Mate		
	ark Surface (A12)				I Dark Surface (F	-7)			k Surface (TF12	)
	luck Mineral (S1)				epressions (F8)	- /		(Explain in		,
	Mucky Peat or Pea	t (S2) <b>(LRR</b>	G. H)		ins Depression (	F16)			tic vegetation	and wetland
	ucky Peat or Peat				2 & 73 of LRR H			must be pre	esent, unless di	
Restrictive La	ayer (if present):							-		
Type:							Hydric Soil	Present?	Yes X	No
Depth (ir	iches).									
Remarks:										
Remarks:										
Remarks: HYDROLOG Wetland Hyd	ŝΥ		red; check a	all that apply)			Sec	condary Inc	licators (2 or m	ore required)
Remarks: HYDROLOG Wetland Hyd Primary Indid	iY Irology Indicators		red; check a	all that apply) _Salt Crust (B11	)		<u>Sec</u>		licators (2 or m bil Cracks (B6)	ore required)
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V	iY Irology Indicators ators (minimum c						Sec	Surface So	oil Cracks (B6)	ore required) ave Surface (B8)
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V	iY Irology Indicators ators (minimum o Vater (A1) ter Table (A2)		 red; check a	Salt Crust (B11	ebrates (B13)		See	Surface So Sparsely V	oil Cracks (B6)	
Remarks: HYDROLOG Wetland Hyo Primary Indio Surface V High Wa	iY Irology Indicators ators (minimum o Vater (A1) ter Table (A2) on (A3)		red; check a	Salt Crust (B11 Aquatic Inverte	ebrates (B13) de Odor (C1)		Sec	Surface So Sparsely V Drainage	oil Cracks (B6) /egetated Conc Patterns (B10)	
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wa X Saturatic Water M	iY Irology Indicators ators (minimum o Vater (A1) ter Table (A2) on (A3)		red; check a	Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Dry-Season Wa	ebrates (B13) de Odor (C1)	iving Roots		Surface So Sparsely V Drainage	oil Cracks (B6) /egetated Conc Patterns (B10) Rhizospheres o	ave Surface (B8)
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wa X Saturatic Water M Sedimen Drift Dep	<b>iY</b> Irology Indicators rators (minimum of Vater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) iosits (B3)		red; check a	Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Dry-Season Wa Oxidized Rhizo (where not till	ebrates (B13) de Odor (C1) ater Table (C2) spheres along L <b>ed)</b>	0	(C3)	Surface So Sparsely V Drainage Oxidized F (where til Crayfish B	bil Cracks (B6) /egetated Conc Patterns (B10) Rhizospheres of Iled) Surrows (C8)	ave Surface (B8)
HYDROLOG Wetland Hyc Primary Indic Surface V High Wa X Saturatic Water M Sedimen Drift Dep Algal Ma	iY Irology Indicators Pators (minimum of Vater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) iosits (B3) t or Crust (B4)		red; check a	Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Dry-Season Wa Oxidized Rhizo (where not till Presence of Re	ebrates (B13) de Odor (C1) ater Table (C2) spheres along L ed) educed Iron (C4)	0	(C3)	Surface So Sparsely V Drainage Oxidized F (where til Crayfish B Saturation	bil Cracks (B6) /egetated Conc Patterns (B10) Rhizospheres of Il <b>ed)</b> Surrows (C8) n Visible on Aer	ave Surface (B8) n Living Roots (C ial Imagery (C9)
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wai X Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep	iY Irology Indicators ators (minimum of Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	f one requii		Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Dry-Season Wa Oxidized Rhizo (where not till Presence of Re Thin Muck Sur	ebrates (B13) de Odor (C1) ater Table (C2) spheres along L ed) educed Iron (C4) face (C7)	0	(C3)	Surface So Sparsely V Drainage Oxidized F <b>(where til</b> Crayfish B Saturation Geomorp	bil Cracks (B6) /egetated Conc Patterns (B10) Rhizospheres of I <b>led)</b> Burrows (C8) n Visible on Aer hic Position (D2	ave Surface (B8) n Living Roots (C ial Imagery (C9)
Remarks: HYDROLOG Wetland Hyo Primary Indio Surface V High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep X Inundatio	iY Irology Indicators ators (minimum of Vater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) iosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria	f one requii I Imagery (E		Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Dry-Season Wa Oxidized Rhizo (where not till Presence of Re	ebrates (B13) de Odor (C1) ater Table (C2) spheres along L ed) educed Iron (C4) face (C7)	0	(C3)	Surface So Sparsely V Drainage Oxidized F (where til Crayfish B Saturation Geomorp FAC-Neut	bil Cracks (B6) /egetated Conc Patterns (B10) Rhizospheres of <b>lled)</b> Surrows (C8) n Visible on Aer hic Position (D2 ral Test (D5)	ave Surface (B8) n Living Roots (C ial Imagery (C9) 2)
Remarks: HYDROLOG Wetland Hyo Primary Indio Surface V High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep X Inundatio	iY Irology Indicators ators (minimum of Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	f one requii I Imagery (E		Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Dry-Season Wa Oxidized Rhizo (where not till Presence of Re Thin Muck Sur	ebrates (B13) de Odor (C1) ater Table (C2) spheres along L ed) educed Iron (C4) face (C7)	0	(C3)	Surface So Sparsely V Drainage Oxidized F (where til Crayfish B Saturation Geomorp FAC-Neut	bil Cracks (B6) /egetated Conc Patterns (B10) Rhizospheres of I <b>led)</b> Burrows (C8) n Visible on Aer hic Position (D2	ave Surface (B8) n Living Roots (C ial Imagery (C9) 2)
Remarks: HYDROLOG Wetland Hyo Primary Indio Surface V High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep X Inundatio	iY Irology Indicators ators (minimum of Vater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) iosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria ained Leaves (B9)	f one requii I Imagery (E		Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Dry-Season Wa Oxidized Rhizo (where not till Presence of Re Thin Muck Sur	ebrates (B13) de Odor (C1) ater Table (C2) spheres along L ed) educed Iron (C4) face (C7)	0	(C3)	Surface So Sparsely V Drainage Oxidized F (where til Crayfish B Saturation Geomorp FAC-Neut	bil Cracks (B6) /egetated Conc Patterns (B10) Rhizospheres of <b>lled)</b> Surrows (C8) n Visible on Aer hic Position (D2 ral Test (D5)	ave Surface (B8) n Living Roots (C ial Imagery (C9) 2)
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High War X Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep X Inundatic Water-St	iY Irology Indicators ators (minimum of Vater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) iosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria ained Leaves (B9) ations:	f one requii I Imagery (E	 	Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Dry-Season Wa Oxidized Rhizo (where not till Presence of Re Thin Muck Sur	ebrates (B13) de Odor (C1) ater Table (C2) spheres along L ed) educed Iron (C4) face (C7) in Remarks)	0	(C3)	Surface So Sparsely V Drainage Oxidized F (where til Crayfish B Saturation Geomorp FAC-Neut	bil Cracks (B6) /egetated Conc Patterns (B10) Rhizospheres of <b>lled)</b> Surrows (C8) n Visible on Aer hic Position (D2 ral Test (D5)	ave Surface (B8) n Living Roots (C ial Imagery (C9) 2)
Remarks: HYDROLOG Wetland Hyo Primary Indio Surface V High Wa' X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep X Inundatio Water-St Field Observ	FY Irology Indicators ators (minimum of Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on Aeria ained Leaves (B9) ations: er Present? Ye	f one requii l Imagery (E	B7)	Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Dry-Season Wa Oxidized Rhizo <b>(where not till</b> Presence of Re Thin Muck Sur Other (Explain	ebrates (B13) de Odor (C1) ater Table (C2) spheres along L ed) educed Iron (C4) face (C7) in Remarks)		(C3)	Surface So Sparsely V Drainage Oxidized f <b>(where til</b> Crayfish B Saturation Geomorp FAC-Neut Frost-Hea	bil Cracks (B6) /egetated Conc Patterns (B10) Rhizospheres of <b>lled)</b> Surrows (C8) n Visible on Aer hic Position (D2 ral Test (D5)	ave Surface (B8) n Living Roots (C ial Imagery (C9) !) (D7) <b>(LRR F)</b>
Remarks: HYDROLOG Wetland Hyo Primary Indio Surface V High Wa X Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep X Inundatio Water-St Field Observ Surface Water Saturation Pr	iY Irology Indicators ators (minimum of Vater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) iosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria ained Leaves (B9) ations: er Present? Ye esent? Ye	f one requii I Imagery (E 25 N	B7)	Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Dry-Season Wa Oxidized Rhizo (where not till Presence of Re Thin Muck Sur Other (Explain Depth (inches)	ebrates (B13) de Odor (C1) ater Table (C2) spheres along L ed) educed Iron (C4) face (C7) in Remarks) :		(C3)	Surface So Sparsely V Drainage Oxidized f <b>(where til</b> Crayfish B Saturation Geomorp FAC-Neut Frost-Hea	bil Cracks (B6) /egetated Conc Patterns (B10) Rhizospheres of <b>lled)</b> Surrows (C8) n Visible on Aer hic Position (D2 ral Test (D5) ve Hummocks	ave Surface (B8) n Living Roots (C ial Imagery (C9) !) (D7) <b>(LRR F)</b>
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wa X Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep X Inundatic Water-St Field Observ Surface Water Saturation Pr (includes cap	iY Irology Indicators ators (minimum of Vater (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) iosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria ained Leaves (B9) ations: er Present? Ye esent? Ye	I Imagery (E 25 N 25 N 25 N 25 N	B7)	Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Dry-Season Wa Oxidized Rhizo (where not till Presence of Re Thin Muck Sur Other (Explain Depth (inches) Depth (inches)	ebrates (B13) de Odor (C1) ater Table (C2) spheres along L ed) educed Iron (C4) face (C7) in Remarks) : :	. Wetlan	(C3)	Surface So Sparsely V Drainage Oxidized f <b>(where til</b> Crayfish B Saturation Geomorp FAC-Neut Frost-Hea	bil Cracks (B6) /egetated Conc Patterns (B10) Rhizospheres of <b>lled)</b> Surrows (C8) n Visible on Aer hic Position (D2 ral Test (D5) ve Hummocks	ave Surface (B8) n Living Roots (C ial Imagery (C9) !) (D7) <b>(LRR F)</b>

Project/Site: Pa	arshall Transload F	acilitv	City/Cou	unty:		Makoti/ War	d	Samp	ling Da	te: 8	3/25/2015
		Barr Engineerir		' _			North		ling Po	-	DP11U
	A Stegema			Se	ection, T	ownship, Range:		13 , 15	-	-	
Landform (hillslope, terrace	, etc.):	hillslope		Local	relief (co	oncave, convex, n	one):	Conca	ive	Slope (%	): <5%
Subregion (LRR):	LRR-F		Lat:	47.9	79467	Long:	-10	1.877121		Datum:	NAD83
Soil Map Unit Name:			onka Silt Loa					assification			MCd
Are climatic/hydrologic con					-						
Are Vegetation No , So			-						? Yes	X	No
Are Vegetation <u>No</u> , So						(if needed, expla					
SUMMARY OF FINDIN				ling p	oint lo	cations, trans	ects, im	portant	eautr	es, etc.	
Hydrophytic Vegetation Pre	esent? Yes	No	X								
Hydric Soil Present?	Yes	No	Х			Sampled Area a Wetland?	Yes	; N		(	
Wetland Hydrology Presen	t? Yes	No	Х		within		100			• <u> </u>	
Remarks:											
VEGETATION – Use sci	entific names	-									
Tree Stratum (Plot size:	30)	Absolute % Cover	Dominant Species?	Indic Statu		Dominanc	e Test Wo	orksheet:			
	,	Cover	Species.	Statu	15	Number of	f Dominar	nt Species			
1						That Are O	BL, FACW	/, or FAC:		0	(A)
			= Total Co	ver		Total Num				1	(D)
Sapling/Shrub Stratum (F	Plot size: <u>15</u>	)				Species Ac				1	(B)
1						Percent of That Are O				0.0%	(A/B)
1			= Total Co	ver		That Are C	DL, FACM	, of FAC.		0.070	(.,)
Herb Stratum (Plot size: 5	5)					Prevalence	e Index W	/orksheet:			
1. Trifolium repens		80%	Y	FA	CU	Total % Co	ver of:		Mul	tiply by:	
2. Cirsium arvense		10%	N		CU	OBL specie		0%	x 1	0.0%	
3. Sonchus oleraceus		10%	N	U	PL						·
4						FACW spec		0%	x 2	0.0%	
Woody Vine Stratum (Plot	t size: <u>30</u>	)	= Total Co	ver		FAC specie	!S	0%	x 3	0.0%	
						FACU spec	ies	90%	x 4	360.0%	
1			·			UPL specie	s	10%	x 5	50.0%	
% Bare Ground in Herb Stratur	n	. <u></u>	= Total Co	ver		Column To	otals:	100.0%	(A)	410%	(B)
						Prevaler	nce Index	= B/A =		4.10	
						Hydrophyt	tic Vogota	ation Indica	tors		
							•				
								or Hydroph		getation	
								Test if >50			
						3 - Pr	evalence	Index is ≤ 3	.0		
								cal Adaptat on a sepera			porting data
						Probl	ematic Hy	/drophytic '	Vegeta	tion (Expla	in)
						Indicators of present, unl					ust be
						Hydrophy Vegetation	tic n				
						Present?		Yes	_No	<u> </u>	
Devester											
Remarks:											

SOIL

Profile Desc	ription: (Descr	ibe to the	depth n	eded to do	ocument the ind	dicator or con	firm the a	bsence of	f indicators			
Depth	Mat	rix			Redox Fe	atures						
(inches)	Color:	%	<u> </u>	Color:	%	Type:	Loc:	Т	exture:		Remarks:	
0-20	10YR 2/1	10	0%						Loam			
Type: C=Con	centration, D=	Depletion,	RM=Ree	duced Matr	ix, CS=Covered	or Coated Sar	d Grains		Location	: PL=Pore	e Lining, M=	Matrix
Hydric Soil I	ndicators: (Ap	olicable to	all LRRs	unless oth	erwise noted.)			Indicat	ors for Proble	matic Hy	dric Soils	
Histoso	l (A1)				Sandy Gleve	d Matrix (S4)		10	cm Muck (A9)	LRR I, J)		
	pipedon (A2)				Sandy Redo				ast Prarie Red		(LRR F, G, H	H)
	istic (A3)				Stripped Ma			Da	ark Surface (S7	) (LRR G	)	
Hydrog	en Sulfide (A4)					ky Mineral (F1	)		gh Plains Depr			
	d Layers (A5)					ed Matrix (F2)			RR H outside o			
	uck (A9)(LRR F				Depleted M			Re	duced Vertic (	(F18)		
	d Below Dark		11)			Surface (F6)		Re	d Parent Mate	erial (TF2	)	
	ark Surface (A		-			ork Surface (F7	<b>'</b> )	Ve	ery Shallow Da	rk Surfac	e (TF12)	
Sandy N	Auck Mineral (	S1)			Redox Depr			Ot	her (Explain ir	n Remark	s)	
	Mucky Peat or		(LRR G, I	H)	High PLains	Depression (F	16)	Indicate	ors of hydroph	ytic vege	etation and	wetland
	ucky Peat or P					73 of LRR H)		hydrolo probler	ogy must be pr natic.	esent, ur	nless disturb	oed or
<b>Restrictive L</b>	ayer (if preser	nt):										
Type:								Undric	Soil Present?	Voc	No	v
Depth (i	nches):							Hyunc	Son Present:	Yes	No	<u> </u>
	GY drology Indica	tors										
-	cators (minimu		required	; check all tl	hat apply)				Secondary In	dicators	(2 or more i	required)
-	Water (A1)				lt Crust (B11)				, Surface S			_ , _ ,
	ter Table (A2)				uatic Invertebr	ates (B13)					ed Concave :	Surface (B8
Saturatio					drogen Sulfide				Drainage	Patterns	s (B10)	
Water N	1arks (B1)			Dr	y-Season Water	Table (C2)			Oxidized	Rhizospł	neres on Liv	ing Roots (C
Sedimer	t Deposits (B2	)		Ox	idized Rhizospł	eres along Liv	ing Roots	(C3)	(where t			
	oosits (B3)			(w	here not tilled)				Crayfish	Burrows	(C8)	
	at or Crust (B4)				esence of Redu	. ,					on Aerial Ir	nagery (C9)
	oosits (B5)				in Muck Surface				Geomor		. ,	
	on Visible on A tained Leaves		ery (B7)	Ot	her (Explain in I	Remarks)			FAC-Neu Frost-He		(D5) mocks (D7)	(LRR F)
Field Observ	ations											
Surface Wat		Voc	No	V Do	pth (inches):							
		Yes										
Water Table			No		pth (inches):		Wetlan	d Hydrolo	ogy Present?	Yes	No	X
Saturation P (includes cap	resent? pillary fringe)	Yes	No	X De	pth (inches):							
Describe Red	corded Data (s	tream gua	ge, moni	toring well,	aerial photos, p	previous inspe	ctions), if a	available:				
Remarks:												

Project/Site: Parshall Transload Fac	litv	Citv/Cou	untv:		Makoti/ Montrail		Samplir	ng Date	: 8	3/25/2015
	rr Engineerir				State: No		Samplir	-		DP14W
Investigator(s): A Stegeman			Se	ection, T	ownship, Range:	-				
	depression		Local	relief (co	oncave, convex, non	e):			Slope (%)	): <5%
Subregion (LRR): LRR-F			47.9	979281	Long:	-101.8	82101	D	atum:	NAD83
Soil Map Unit Name:		onka silt loa				NWI class			PE	МС
Are climatic/hydrologic conditions on the site type of the site type of the site type of the site type of the site										
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro								Yes	Х	No
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro					(if needed, explain					
SUMMARY OF FINDINGS – Attach site	map show	ing samp	ling p	oint lo	cations, transec	ts, impo	ortant fe	autre	s, etc.	1
Hydrophytic Vegetation Present? Yes	X No									
Hydric Soil Present? Yes	X No				Sampled Area a Wetland?	Ves	X No			
Wetland Hydrology Present? Yes	X No			within	a wetianu!		<u></u> o			
Remarks:										
VEGETATION – Use scientific names of	plants									
Tree Stratum (Plot size: <u>30</u> )	Absolute %	Dominant	Indic		Dominance T	est Work	sheet:			
<u>nee stratum</u> (Plot size. <u>30</u> )	Cover	Species?	Statu	JS	Number of D	ominant S	pecies			
					That Are OBL	, FACW, o	r FAC:		2	(A)
1		= Total Co	ver		Total Numbe	r of Domii	nant			
Sapling/Shrub Stratum (Plot size: 15	)				Species Acros				2	(B)
					Percent of Do			10	0.00/	( A / D )
1		= Total Co	ver		That Are OBL	, FACW, o	r FAC:	10	0.0%	(A/B)
Herb Stratum (Plot size: <u>5</u> )					Prevalence Ir	ndex Worl	(sheet:			
1. Eleocharis fallax	30%	Y	0	BL	Total % Cove			Multip	hy hy:	
2. Persicaria amphibia	25%	Y	0	BL					• •	
3. Beckmannia syzigachne	15%	Ν	0	BL	OBL species		90%	x 1	90.0%	
4. Typha latifolia	10%	Ν	0	BL	FACW species	s	0%	x 2	0.0%	
5. Rumex occidentalis	10%	Ν	0	BL	FAC species		0%	х 3	0.0%	
6					FACU species	. <u> </u>	0%	x 4	0.0%	
Woody Vine Stratum (Plot size: 30 )	90%	= Total Co	ver		UPL species		0%	x 5	0.0%	
(Hotsize: <u>50</u> )					Column Tota	ls: 9	0.0%	(A)	90%	(B)
1					Prevalence	·			.00	
		= Total Co	ver		Frevalence			1	.00	
% Bare Ground in Herb Stratum					Hydrophytic	Vegetatio	n Indicato	ors:		
					1 - Rapio	d Test for	Hydrophyt	ic Vege	etation	
					Y 2 - Dom	inance Te	st if >50%			
					Y 3 - Preva	alence Ind	ex is ≤ 3.0			
					4 - Morp	phological		•	•	porting data
							ophytic Ve	-		in)
					Indicators of h				ology mu	ust be
					present, unless	s disturbed	t or proble	ematic		
					Vegetation Present?	Yes	5 <u> </u>	lo		
Remarks:										

~	0		
~	( )	I	
J	J		-

Depth	Matri	х		R	edox Feat	ures			
(inches)	Color:	%	Colo	r:	%	Type:	Loc:	Texture:	Remarks:
0-12	10YR 2/1	90%	10YR	4/6	10%	CS	PL	Silty Clay Loar	n
12-20	10YR 4/2	90%	10YR	3/6	10%	С	М	Silty Clay	
	contration D-D		-Doducod M	otriv CC-		Controd Conv	d Croinc		tion DI-Doro Lining M-Matrix
	centration, D=D	• •				Coaled Sand	u Grains		tion: PL=Pore Lining, M=Matrix
-	ndicators: (Appl		rrs, uniess i			Maturia (CA)			bblematic Hydric Soils
Histoso						Matrix (S4)		1 cm Muck (	
	pipedon (A2) istic (A3)				ndy Redox i ipped Matr				Redox (A16) <b>(LRR F, G, H)</b> e (S7) <b>(LRR G)</b>
	en Sulfide (A4)					Mineral (F1)			Depressions (F16)
	ed Layers (A5) (	RR F)				d Matrix (F2)			de of MLRA 72 & 73)
	uck (A9) <b>(LRR F,</b>				pleted Mat			Reduced Ver	-
	d Below Dark Si				dox Dark Si				Material (TF2)
	ark Surface (A12					k Surface (F7)	)		v Dark Surface (TF12)
	/uck Mineral (S				dox Depres				in in Remarks)
	Mucky Peat or P		G, H)			epression (F1	L6)		rophytic vegetation and wetland
5 cm M	ucky Peat or Pea	at (S3) <b>(LRR F)</b>		(M	LRA 72 & 7	3 of LRR H)		hydrology must b problematic.	e present, unless disturbed or
lestrictive L	ayer (if present	):						<u> </u>	
<b>T</b>									
Type:								Hydric Soil Prese	nt? Voc V No
Depth (i	nches):							Hydric Soil Prese	nt? Yes <u>X</u> No
Depth (i Remarks:								Hydric Soil Preser	nt? Yes <u>X</u> No
Depth (i Remarks: IYDROLO Wetland Hy	GY drology Indicato		red: check a	Il that an	nlv)			·	
Depth (i Remarks: HYDROLOO Wetland Hy Primary Indi	GY drology Indicato cators (minimur		red; check a					Secondar	ry Indicators (2 or more required)
Depth (i Remarks: IYDROLOG Wetland Hy Primary Indi Surface	<b>GY</b> drology Indicato cators (minimur Water (A1)		red; check a	Salt Crus	t (B11)	es (B13)		<u>Secondar</u> Surfa	y Indicators (2 or more required) ice Soil Cracks (B6)
Depth (i Remarks: IYDROLOG Wetland Hy Primary Indi Surface	<b>GY</b> drology Indicato cators (minimur Water (A1) ter Table (A2)		red; check a	Salt Crus Aquatic I	t (B11) nvertebrat			Secondar Surfa Spars	ry Indicators (2 or more required)
Depth (i Remarks: IYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati	<b>GY</b> drology Indicato cators (minimur Water (A1) ter Table (A2)		red; check a	Salt Crus Aquatic I Hydroger	t (B11)	dor (C1)		Secondar Surfa Spars Drain	y Indicators (2 or more required) ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) nage Patterns (B10)
Depth (i Remarks: IYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N	<b>GY</b> drology Indicato cators (minimur Water (A1) ter Table (A2) on (A3)			Salt Crus Aquatic I Hydroger Dry-Seas	t (B11) Invertebrat n Sulfide O on Water T	dor (C1)	ing Roots (	Secondar Surfa Spars Drair Oxidi	y Indicators (2 or more required) ice Soil Cracks (B6) sely Vegetated Concave Surface (B8)
Depth (i Remarks: IYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer	<b>GY</b> drology Indicato cators (minimur Water (A1) ter Table (A2) on (A3) larks (B1)			Salt Crus Aquatic I Hydroger Dry-Seas Oxidized	t (B11) Invertebrat n Sulfide O on Water T	dor (C1) Table (C2)	ing Roots (	Secondar Surfa Spars Drair Oxidi C3) (whe	ry Indicators (2 or more required) ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) iage Patterns (B10) ized Rhizospheres on Living Roots (C
Depth (i Remarks: IYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift De Algal Ma	GY drology Indicato cators (minimur Water (A1) ter Table (A2) on (A3) larks (B1) it Deposits (B2) posits (B3) it or Crust (B4)		X	Salt Crus Aquatic I Hydrogen Dry-Seas Oxidized (where n Presence	t (B11) nvertebrat n Sulfide O on Water T Rhizosphe <b>not tilled)</b> of Reduce	dor (C1) Table (C2) res along Livi ed Iron (C4)	ing Roots (	Secondar Surfa Spars Drair C3) (whe X Satur	ry Indicators (2 or more required) ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) nage Patterns (B10) ized Rhizospheres on Living Roots (C ere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9)
Depth (i Remarks: IYDROLOG Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Dep	GY drology Indicato cators (minimur Water (A1) ter Table (A2) on (A3) larks (B1) lt Deposits (B2) osits (B3) it or Crust (B4) posits (B5)	n of one requi	X	Salt Crus Aquatic I Hydrogen Dry-Seas Oxidized (where n Presence Thin Muc	t (B11) Invertebrat n Sulfide O on Water T Rhizosphe <b>not tilled)</b> e of Reduce ck Surface (	dor (C1) Table (C2) res along Livi ed Iron (C4) (C7)	ing Roots (	C3) Cash Cash Cash Cash Cash Cash Cash Cash	ry Indicators (2 or more required) ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) nage Patterns (B10) ized Rhizospheres on Living Roots (C ire tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) norphic Position (D2)
Depth (i Remarks: IYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift De Algal Ma Iron Deg X Inundati	GY drology Indicato cators (minimur Water (A1) ter Table (A2) on (A3) larks (B1) it Deposits (B2) posits (B3) it or Crust (B4)	n of one requi	X	Salt Crus Aquatic I Hydrogen Dry-Seas Oxidized (where n Presence Thin Muc	t (B11) nvertebrat n Sulfide O on Water T Rhizosphe <b>not tilled)</b> of Reduce	dor (C1) Table (C2) res along Livi ed Iron (C4) (C7)	ing Roots (	Secondar Surfa Spars Drair Oxidi C3) (whe Cayf X Satur X Geon FAC-1	ry Indicators (2 or more required) ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) nage Patterns (B10) ized Rhizospheres on Living Roots (C ere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9)
Depth (i Remarks: IYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Dep X Inundati Water-S	<b>GY</b> drology Indicato cators (minimur Water (A1) ter Table (A2) on (A3) larks (B1) it Deposits (B2) osits (B3) it or Crust (B4) isosits (B5) on Visible on Ae tained Leaves (B	n of one requi	X	Salt Crus Aquatic I Hydrogen Dry-Seas Oxidized (where n Presence Thin Muc	t (B11) Invertebrat n Sulfide O on Water T Rhizosphe <b>not tilled)</b> e of Reduce ck Surface (	dor (C1) Table (C2) res along Livi ed Iron (C4) (C7)	ing Roots (	Secondar Surfa Spars Drair Oxidi C3) (whe Cayf X Satur X Geon FAC-1	ry Indicators (2 or more required) ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) hage Patterns (B10) ized Rhizospheres on Living Roots (C ret tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) norphic Position (D2) Neutral Test (D5)
Depth (i Remarks: IYDROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep X Inundati Water-S	GY drology Indicato cators (minimur Water (A1) ter Table (A2) on (A3) larks (B1) it Deposits (B2) oosits (B3) it or Crust (B4) oosits (B5) on Visible on Ae tained Leaves (E mations:	n of one requi	X	Salt Crus Aquatic I Hydrogen Dry-Seas Oxidized (where n Presence Thin Muc	t (B11) Invertebrat n Sulfide O on Water T Rhizosphe <b>not tilled)</b> e of Reduce ck Surface ( xplain in Re	dor (C1) Table (C2) res along Livi ed Iron (C4) (C7)	ing Roots (	Secondar Surfa Spars Drair Oxidi C3) (whe Cayf X Satur X Geon FAC-1	ry Indicators (2 or more required) ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) hage Patterns (B10) ized Rhizospheres on Living Roots (C ret tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) norphic Position (D2) Neutral Test (D5)
Depth (i Remarks: IYDROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift De Algal Ma Iron Dep X Inundati	GY drology Indicato cators (minimur Water (A1) ter Table (A2) on (A3) larks (B1) it Deposits (B2) posits (B3) it or Crust (B4) posits (B5) on Visible on Ae tained Leaves (E rations: er Present?	n of one requi rial Imagery (f 9)	B7)	Salt Crus Aquatic I Hydroget Dry-Seas Oxidized (where n Presence Thin Muc Other (Ex	t (B11) Invertebrat n Sulfide O on Water T Rhizosphe <b>not tilled)</b> e of Reduce ck Surface ( xplain in Re	dor (C1) Table (C2) res along Livi ed Iron (C4) (C7)		Secondar Surfa Spars Drair Oxidi C3) (whe Cayf X Satur X Geon FAC-1	ry Indicators (2 or more required) ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) hage Patterns (B10) ized Rhizospheres on Living Roots (C ere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) norphic Position (D2) Neutral Test (D5) :-Heave Hummocks (D7) (LRR F)
Depth (i Remarks: IYDROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Water N Sedimer Drift De Algal Ma Iron Dep X Inundati Water-S Field Observ Surface Wat Water Table Saturation P (includes cap	GY drology Indicato cators (minimur Water (A1) ter Table (A2) on (A3) 1arks (B1) 1t Deposits (B2) oosits (B3) 1t or Crust (B4) oosits (B5) on Visible on Ae tained Leaves (B rations: er Present? Present? present? pillary fringe)	rial Imagery (F 9) Yes N Yes N Yes N	B7)	Salt Crus Aquatic I Hydroger Dry-Seas Oxidized (where n Presence Thin Muc Other (E) Depth (ir Depth (ir Depth (ir	n Sulfide O on Water T Rhizosphe of Reduce ck Surface ( xplain in Re nches):	dor (C1) Fable (C2) res along Livi ed Iron (C4) (C7) emarks)	Wetland	C3) Secondar Surfa Spars Drair Oxidi C3) (whe Crayf X Satur X Geon FAC-1 Frost	ry Indicators (2 or more required) ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) hage Patterns (B10) ized Rhizospheres on Living Roots (C ere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) norphic Position (D2) Neutral Test (D5) :-Heave Hummocks (D7) (LRR F)
Depth (i Remarks: IYDROLOO Netland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Dep X Inundati Water-S Field Observ Surface Wat Nater Table Saturation P includes ca	GY drology Indicato cators (minimur Water (A1) ter Table (A2) on (A3) larks (B1) it Deposits (B2) oosits (B3) it or Crust (B4) oosits (B5) on Visible on Ae tained Leaves (E rations: er Present? Present?	rial Imagery (F 9) Yes N Yes N Yes N	B7)	Salt Crus Aquatic I Hydroger Dry-Seas Oxidized (where n Presence Thin Muc Other (E) Depth (ir Depth (ir Depth (ir	n Sulfide O on Water T Rhizosphe of Reduce ck Surface ( xplain in Re nches):	dor (C1) Fable (C2) res along Livi ed Iron (C4) (C7) emarks)	Wetland	C3) Secondar Surfa Spars Drair Oxidi C3) (whe Crayf X Satur X Geon FAC-1 Frost	ry Indicators (2 or more required) ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) hage Patterns (B10) ized Rhizospheres on Living Roots (C ere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) norphic Position (D2) Neutral Test (D5) :-Heave Hummocks (D7) (LRR F)

Project/Site: Parshall Transload Fac	cility	City/Cou	inty:		Makoti/ Ward	ł	Sampl	ling Da	te: 8	3/25/2015
	, arr Engineerin		• _			North		ling Poi		DP15U
Investigator(s): A Stegeman			Se	ection, To	wnship, Range:		13,152	2N, 88\	N	
	depression				ncave, convex, no		None		Slope (%	): <5%
Subregion (LRR): LRR-F					Long:				Datum:	NAD83
Soil Map Unit Name:		onka silt loa					ssification			МС
Are climatic/hydrologic conditions on the site ty										
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro								? Yes	X	No
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro										
SUMMARY OF FINDINGS – Attach site	-		ling p	oint lo	cations, transe	ects, imp	ortant f	eautr	es, etc.	
		<u> </u>								
Hydric Soil Present? Yes	X No				ampled Area a Wetland?	Yes	N	o X	(	
Wetland Hydrology Present? Yes	No	X								
Remarks:										
VEGETATION – Use scientific names of	-									
Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indic Statu		Dominance	e Test Wor	ksheet:			
					Number of	Dominant	Species		_	()
1.					That Are O				0	(A)
		= Total Cov	ver		Total Numl				1	(B)
Sapling/Shrub Stratum (Plot size: <u>15</u>	_)				Species Acr				T	(0)
1					Percent of That Are O		•		0.0%	(A/B)
Herb Stratum (Plot size: <u>5</u> )		= Total Cov	ver							
1. Thinopyrum intermedium	75%	Y	U	PL	Prevalence	Index Wo	orksheet:			
2. Sonchus oleraceus	10%	N	-	PL	Total % Cov	ver of:		Mul	tiply by:	
3. Rumex occidentalis	5%	N		BL	OBL specie	s	5%	x 1	5.0%	
4.					FACW spec	ies	0%	x 2	0.0%	
4	90%	= Total Cov	ver		FAC species	s	0%	x 3	0.0%	
<u>Woody Vine Stratum</u> (Plot size: <u>30</u> )					FACU speci	es	0%	x 4	0.0%	
					UPL specie		85%	x 5		
1		= Total Cov	ver					-	425.0%	(D)
% Bare Ground in Herb Stratum	=				Column To		90.0%	(A)	430%	(B)
					Prevalen	ice Index =	B/A =		4.78	
					Hydrophyt	ic Vegetat	ion Indica	tors:		
					1 - Ra	pid Test fo	r Hydroph	ytic Ve	getation	
					2 - Do	minance T	est if >50%	<u>.</u>	-	
						evalence In				
										a antina data
						narks or or				porting data
					Proble	ematic Hyd	lrophytic V	'egetat	ion (Explai	in)
					Indicators of present, unle					ust be
								icinati	~	
					Hydrophyt Vegetation Present?	1	es	No	x	
Democha										
Remarks:										

Depth	Matı	ix			Redox	Features			
(inches)	Color:	%		Color:	%	Type:	Loc:	Texture:	Remarks:
0-20	10YR 3/1	95	5%	10YR 5/	4 5%	6 C	PL	Loam	
Type: C=Cor	centration, D=	Depletion,	RM=Re	duced Matr	ix, CS=Cover	ed or Coated Sa	nd Grains	Location	n: PL=Pore Lining, M=Matrix
Hydric Soil I	ndicators: (App	licable to	all I RRs	unless oth	erwise note	4 )		Indicators for Proble	amatic Hydric Soils
Histosc				, unicos oti		eyed Matrix (S4)		1 cm Muck (A9)	-
	pipedon (A2)			_	Sandy Gre				dox (A16) <b>(LRR F, G, H)</b>
	istic (A3)			—		Matrix (S6)		Dark Surface (S	
	en Sulfide (A4)			—		ucky Mineral (F	1)	High Plains Dep	
	ed Layers (A5)	(LRR F)		_		eyed Matrix (F2			of MLRA 72 & 73)
	uck (A9)(LRR F,			_		, Matrix (F3)	,	Reduced Vertic	
	d Below Dark		11)	_	Redox Da	irk Surface (F6)		Red Parent Mat	
Thick D	ark Surface (A1	2)		_	Depleted	Dark Surface (F	7)	Very Shallow Da	ark Surface (TF12)
Sandy I	Auck Mineral (S	51)			Redox De	pressions (F8)		Other (Explain i	n Remarks)
2.5 cm	Mucky Peat or	Peat (S2)	(LRR G, I	н)	High PLai	ns Depression (I	F16)		hytic vegetation and wetland
5 cm M	ucky Peat or Pe	eat (S3) <b>(L</b>	RR F)		(MLRA 72	2 & 73 of LRR H		hydrology must be p problematic.	resent, unless disturbed or
Restrictive L	ayer (if presen	t):						problematic.	
Type:		•,-							
<i></i> –								Hydric Soil Present?	Yes X No
Depth (i	nches):								
Depth (i Remarks:	ncnes):								
Remarks:									
Remarks: HYDROLO									
Remarks: HYDROLO Wetland Hy	GY drology Indicat								
Remarks: HYDROLO Wetland Hy Primary Indi	GY drology Indicat cators (minimu		required						ndicators (2 or more required)
Remarks: HYDROLO Wetland Hy Primary Indi Surface	<b>GY</b> drology Indicat cators (minimu Water (A1)		required	Sa	lt Crust (B11)			Surface	ndicators (2 or more required) Soil Cracks (B6)
Remarks: HYDROLO Wetland Hy Primary Indi Surface High Wa	<b>GY</b> drology Indicat cators (minimu Water (A1) ter Table (A2)		required	Sa Ac	lt Crust (B11) Juatic Inverte	brates (B13)		Surface Sparsely	ndicators (2 or more required) Soil Cracks (B6) v Vegetated Concave Surface (B8)
Remarks: HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati	<b>GY</b> drology Indicat cators (minimu Water (A1) ter Table (A2) on (A3)		required	Sa Ac Hy	lt Crust (B11) Juatic Inverte drogen Sulfie	ebrates (B13) de Odor (C1)		Surface Sparsely Drainag	ndicators (2 or more required) Soil Cracks (B6) r Vegetated Concave Surface (B8) e Patterns (B10)
Remarks: HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water N	<b>GY</b> drology Indicat cators (minimu Water (A1) iter Table (A2) on (A3) 1arks (B1)	m of one i	required	Sa Sa Ac Hy Dr	lt Crust (B11) Juatic Inverte Pdrogen Sulfie y-Season Wa	brates (B13) de Odor (C1) ter Table (C2)	ving Roots (	Surface Sparsely Drainage Oxidized	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3
Remarks: HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer	<b>GY</b> drology Indicat cators (minimu Water (A1) ter Table (A2) on (A3)	m of one i	required	Sa Sa Hy Dr Ox	lt Crust (B11) Juatic Inverte Pdrogen Sulfie y-Season Wa	brates (B13) de Odor (C1) iter Table (C2) spheres along Li	ving Roots (	C3) Surface Sparsely Drainage C3 (where	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3
Remarks: HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De	<b>GY</b> drology Indicat cators (minimu Water (A1) iter Table (A2) on (A3) 1arks (B1) it Deposits (B2)	m of one i	required	Sa Sa Aq Dr Ox Ox Ox	lt Crust (B11) Juatic Inverte Idrogen Sulfie y-Season Wa Sidized Rhizos here not tille	brates (B13) de Odor (C1) iter Table (C2) spheres along Li	ving Roots (	C3) Surface Sparsely Oxidized C3) (where Castrony fish	ndicators (2 or more required) Soil Cracks (B6) v Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (Ca <b>tilled)</b>
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Deg	GY drology Indicat cators (minimu Water (A1) ter Table (A2) on (A3) 1arks (B1) 1arks (B1) 1arks (B3) at or Crust (B4) posits (B5)	m of one i		Sa Ac Hy Dr Ox Pr Th	It Crust (B11) Juatic Inverte drogen Sulfid y-Season Wa didized Rhizos here not till esence of Re in Muck Surf	brates (B13) de Odor (C1) iter Table (C2) spheres along Li ed) duced Iron (C4) face (C7)	ving Roots (	C3) Surface Sparsely Drainage C3) <b>(where</b> Cayfish Saturati Geomor	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 <b>tilled)</b> Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Deg Inundat	GY drology Indicat cators (minimu Water (A1) ter Table (A2) on (A3) 1arks (B1) 1t Deposits (B2) posits (B3) 1t or Crust (B4)	m of one i erial Imag		Sa Ac Hy Dr Ox Pr Th	It Crust (B11) Juatic Inverte drogen Sulfie y-Season Wa idized Rhizos <b>here not till</b> esence of Re	brates (B13) de Odor (C1) iter Table (C2) spheres along Li ed) duced Iron (C4) face (C7)	ving Roots (	C3) Surface Sparsely Drainage C3) <b>(where</b> Crayfish Saturati Geomor FAC-Net	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 <b>tilled)</b> Burrows (C8) on Visible on Aerial Imagery (C9)
Remarks: HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Dep Inundat Water-S	GY drology Indicat cators (minimu Water (A1) ter Table (A2) on (A3) 1arks (B1) 1t Deposits (B2) posits (B3) 1t or Crust (B4) posits (B5) on Visible on A tained Leaves (	m of one i erial Imag		Sa Ac Hy Dr Ox Pr Th	It Crust (B11) Juatic Inverte drogen Sulfid y-Season Wa didized Rhizos here not till esence of Re in Muck Surf	brates (B13) de Odor (C1) iter Table (C2) spheres along Li ed) duced Iron (C4) face (C7)	ving Roots (	C3) Surface Sparsely Drainage C3) <b>(where</b> Crayfish Saturati Geomor FAC-Net	ndicators (2 or more required) Soil Cracks (B6) v Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 <b>tilled)</b> Burrows (C8) on Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5)
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Deg Inundat Water-S Field Observ	GY drology Indicat cators (minimu Water (A1) ter Table (A2) on (A3) farks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) on Visible on A tained Leaves ( rations:	m of one i erial Imag	ery (B7)	Sa Ac Hy Dr Ox Ox Th Ot	It Crust (B11) Juatic Inverte drogen Sulfid y-Season Wa didized Rhizos here not till esence of Re in Muck Surf	brates (B13) de Odor (C1) iter Table (C2) spheres along Li ed) duced Iron (C4) ace (C7) in Remarks)	ving Roots (	C3) Surface Sparsely Drainage C3) <b>(where</b> Crayfish Saturati Geomor FAC-Net	ndicators (2 or more required) Soil Cracks (B6) v Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 <b>tilled)</b> Burrows (C8) on Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5)
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Deg Inundat Water-S Field Observ Surface Wat	GY drology Indicat cators (minimu Water (A1) ter Table (A2) on (A3) 1arks (B1) 1t Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) on Visible on A tained Leaves ( rations: er Present?	m of one i erial Imag B9)	ery (B7)	Sa Ac Hy Dr Ox Ox Th Ot Ot	It Crust (B11) Juatic Inverte drogen Sulfid y-Season Wa didized Rhizos <b>here not till</b> esence of Re in Muck Surf her (Explain	brates (B13) de Odor (C1) iter Table (C2) spheres along Li ed) duced Iron (C4) face (C7) in Remarks)		C3) Surface Sparsely Oxidized C3) (where Saturati Geomor FAC-Neu Frost-He	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 <b>tilled)</b> Burrows (C8) on Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5) eave Hummocks (D7) <b>(LRR F)</b>
Remarks: HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Dep Inundat Water-S Field Observ Surface Wat Water Table Saturation P	GY drology Indicat cators (minimu Water (A1) ter Table (A2) on (A3) 1arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) posits (B5) on Visible on A tained Leaves ( rations: er Present? Present?	erial Imag B9) Yes	ery (B7) No	Sa Ac Hy Dr Ox Th Th Ot Th Ot	It Crust (B11) juatic Inverte drogen Sulfi y-Season Wa idized Rhizos here not till esence of Re in Muck Surf her (Explain	brates (B13) de Odor (C1) iter Table (C2) spheres along Li ed) duced Iron (C4) face (C7) in Remarks)		C3) Surface Sparsely Drainage C3) <b>(where</b> Crayfish Saturati Geomor FAC-Net	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 <b>tilled)</b> Burrows (C8) on Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5) eave Hummocks (D7) <b>(LRR F)</b>
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Dep Inundat Water-S Field Observ Surface Wat Water Table Saturation P (includes ca	GY drology Indicat cators (minimu Water (A1) ter Table (A2) on (A3) 1arks (B1) 1t Deposits (B2) oosits (B3) 1t or Crust (B4) oosits (B5) on Visible on A tained Leaves ( rations: er Present? Present? pillary fringe)	erial Imag B9) Yes Yes Yes	ery (B7) No No No	Sa — Ac — Hy — Dr — Ox — Ox — M — Pr — Th — Ot — Th — Ot — X — De X De	It Crust (B11) juatic Inverte drogen Sulfi y-Season Wa idized Rhizos here not till esence of Re in Muck Surf her (Explain pth (inches): pth (inches):	brates (B13) de Odor (C1) iter Table (C2) spheres along Li ed) duced Iron (C4) face (C7) in Remarks)	Wetland	Surface Sparsely Drainag Oxidized (Where Crayfish Saturati Geomor FAC-Net Frost-He	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C3 <b>tilled)</b> Burrows (C8) on Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5) eave Hummocks (D7) <b>(LRR F)</b>

Project/Site: Parshall Transload Fac	cility	City/Cou	nty:		Makoti/ Ward	Samp	ling Date:	8/25/2015
Applicant/Owner: Ba	arr Engineerir				State: North	Samp	ling Point:	DP18W
Investigator(s): A Stegeman		-	Sec	ction, To	wnship, Range:	13 , 15	2N, 88W	
Landform (hillslope, terrace, etc.):	depression		Local re	elief (cor	ncave, convex, none):	Conca	ave Slope	e (%): <5%
Subregion (LRR): LRR-F		Lat:			Long: -		Datur	n: NAD83
Soil Map Unit Name:		onka silt loar				classification		PEMA
Are climatic/hydrologic conditions on the site ty								
Are Vegetation         No         , Soil         No         , or Hydro           Are Vegetation         No         , Soil         No         , or Hydro							? Yes )	K NO
SUMMARY OF FINDINGS – Attach site					(if needed, explain in Re		focutros of	to
	•	· ·	ing pc			проган	leauties, e	
				Is the S	ampled Area			
					a Wetland? Y	es X N	lo	
Wetland Hydrology Present? Yes	X No							
Remarks:								
VEGETATION – Use scientific names of	f plants							
	Absolute %	Dominant	Indica	ator	Dominance Test	Norksheet:		
Tree Stratum (Plot size: <u>30</u> )	Cover	Species?	Status	S	Number of Domir			
					That Are OBL, FAG	•	2	(A)
1		= Total Cov	or		Total Number of			
Sapling/Shrub Stratum (Plot size: 15	)				Species Across All	Strata:	2	(B)
					Percent of Domin	ant Species		
1					That Are OBL, FAG	CW, or FAC:	100.0%	6 (A/B)
Herb Stratum (Plot size: <u>5</u> )		= Total Cov	/er		Prevalence Index	Worksheet:		
1. Sonchus arvensis	50%	Y	FA	C				
2. Typha latifolia	50%	Y	OB	3L	Total % Cover of:		Multiply b	-
3. Cirsium arvense	10%	Ν	FAC	CU	OBL species	50%	x 1 50.	
4					FACW species	0%	x 2 0.0	0%
Woody Vine Stratum (Plot size: <u>30</u> )	110%	_ = Total Cov	/er		FAC species	50%	x 3 150	.0%
(Hotsice, <u>50</u> )					FACU species	10%	x 4 40.	0%
1					UPL species	0%	x 5 0.0	0%
% Bare Ground in Herb Stratum		= Total Cov	/er		Column Totals:	110.0%	(A) 24	0% (B)
	-				Prevalence Ind	ex = B/A =	2.18	
					Hydrophytic Veg	tation Indica	tore	
					, , , , ,			
							iytic Vegetatio	UTI
					Y 2 - Dominan			
					Y 3 - Prevalence			
						ogical Adaptat or on a sepera	-	supporting data
					Problematic	Hydrophytic '	Vegetation (E	xplain)
					Indicators of hydric present, unless dist			y must be
					Hydrophytic Vegetation	Yes X		
					Present?			
Remarks:								

~	0		
~	( )	I	
J	J		-

Depth	Matrix			Redox Fea	tures			
(inches)	Color:	%	Color:	%	Type:	Loc:	Texture:	Remarks:
0-16	10YR 2/2	95%	10YR 5/6	5%	С	М	Silty Clay	
16-20	10YR 5/2	95%	10YR 6/4	5%	С	М	Silt Loam	
Type: C=Con	centration, D=Dep	letion, RM=R	educed Matrix, CS	=Covered o	r Coated San	d Grains	Locati	on: PL=Pore Lining, M=Matrix
Hydric Soil I	ndicators: (Applica	able to all LRR	Rs, unless otherwi	se noted.)			Indicators for Prob	lematic Hydric Soils
Histoso	l (A1)		Si	andy Gleyed	l Matrix (S4)		1 cm Muck (A	9) <b>(LRR I, J)</b>
Histic E	pipedon (A2)			andy Redox				edox (A16) (LRR F, G, H)
	istic (A3)		St	tripped Mat	rix (S6)		Dark Surface	
Hydrog	en Sulfide (A4)		L	oamy Muck	y Mineral (F1)	)	High Plains De	epressions (F16)
Stratifie	ed Layers (A5) (LR	RF)	L	oamy Gleye	d Matrix (F2)		(LRR H outsid	e of MLRA 72 & 73)
1 cm M	uck (A9) <b>(LRR F, G,</b>	Н)	D	epleted Ma	trix (F3)		Reduced Vert	ic (F18)
Deplete	d Below Dark Sur	face (A11)	R	edox Dark S	urface (F6)		Red Parent M	aterial (TF2)
Thick D	ark Surface (A12)		D	epleted Dar	k Surface (F7	)	Very Shallow	Dark Surface (TF12)
Sandy N	/luck Mineral (S1)		<u> </u>	edox Depre	ssions (F8)		Other (Explain	n in Remarks)
	Mucky Peat or Pea		<b>, н)</b> Н	igh PLains D	Pepression (F1	L6)		phytic vegetation and wetland
5 cm M	ucky Peat or Peat	(S3) <b>(LRR F)</b>	1)	MLRA 72 &	73 of LRR H)		hydrology must be problematic.	present, unless disturbed or
Restrictive L	ayer (if present):						problematic.	
Type:							Undete Catl Dessent	
Depth (i	nches):						Hydric Soil Presen	t? Yes <u>X</u> No
Depth (i Remarks:	GY						Hydric Soil Present	t? Yes <u>X</u> No
Depth (i Remarks: HYDROLO( Wetland Hy	GY drology Indicators							
Depth (i Remarks: HYDROLOO Wetland Hy Primary Indi	GY drology Indicators cators (minimum o		ed; check all that a				Secondary	Indicators (2 or more required)
Depth (i Remarks: HYDROLOG Wetland Hy Primary Indi Surface	GY drology Indicators cators (minimum o Water (A1)		Salt Cru	ist (B11)	tes (B13)		Secondary Surfac	Indicators (2 or more required) e Soil Cracks (B6)
Depth (i Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa	<b>GY</b> drology Indicators cators (minimum o Water (A1) ter Table (A2)		Salt Cru Aquatio	ist (B11) Invertebra			Secondary Surfac Sparse	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8)
Depth (i Remarks: HYDROLOG Wetland Hy Primary Indi Surface High Wa Saturatio	<b>GY</b> drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3)		Salt Cru Aquatic Hydrog	ist (B11)	dor (C1)		Secondary Surfac Sparse Draina	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10)
Depth (i Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Water M	<b>GY</b> drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1)		Salt Cru Aquatic Hydrog Dry-Sea	ist (B11) CINVertebra en Sulfide C ason Water	dor (C1)	ing Roots (	Secondary Surfac Sparse Draina Oxidiz	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10)
Depth (i Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer	<b>GY</b> drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3)		Salt Cru Aquatic Hydrog Dry-Sea Oxidize	ist (B11) CINVertebra en Sulfide C ason Water	odor (C1) Table (C2)	ing Roots (	Secondary Surfac Sparse Draina Oxidiz (C3) (wher	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C
Depth (i Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift De	<b>GY</b> drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) 1arks (B1) t Deposits (B2)		Salt Cru Aquatio Hydrog Dry-Sea Oxidize	ist (B11) Invertebra en Sulfide C ason Water d Rhizosphe <b>not tilled)</b>	odor (C1) Table (C2)	ing Roots (	Secondary Surfac Sparse Draina Oxidiz (C3) (wher Crayfig	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C <b>e tilled)</b>
Depth (i Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift De Algal Ma Iron Dep	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) it Deposits (B2) posits (B3) it or Crust (B4) posits (B5)	of one require	Salt Cru Aquatio Hydrog Dry-Sea Oxidize <b>(where</b> Presend Thin M	ist (B11) c Invertebra en Sulfide C ason Water d Rhizosphe <b>not tilled)</b> ce of Reduce uck Surface	odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)	ing Roots (	Secondary Surfac Sparse Draina Oxidiz (C3) (wher Crayfis Satura X Geom	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C e tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2)
Depth (i Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) it Deposits (B2) posits (B3) it or Crust (B4)	of one require	Salt Cru Aquatio Hydrog Dry-Sea Oxidize <b>(where</b> Presend Thin M	ist (B11) Invertebra en Sulfide C ason Water d Rhizosphe <b>not tilled)</b> ce of Reduce	odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)	ing Roots (	Secondary Surfac Sparse Draina Oxidiz (C3) (wher Crayfis Satura X Geom X FAC-N	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C e tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9)
Depth (i Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati Water-S	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) it Deposits (B2) posits (B3) it or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9)	of one require	Salt Cru Aquatio Hydrog Dry-Sea Oxidize <b>(where</b> Presend Thin M	ist (B11) c Invertebra en Sulfide C ason Water d Rhizosphe <b>not tilled)</b> ce of Reduce uck Surface	odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)	ing Roots (	Secondary Surfac Sparse Draina Oxidiz (C3) (wher Crayfis Satura X Geom X FAC-N	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C e tilled) ish Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) eutral Test (D5)
Depth (i Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati Water-S Field Observ	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) it Deposits (B2) posits (B3) it or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9)	of one require	Salt Cru Aquatio Hydrog Dry-Sea Oxidize Presend Thin M 7)Other (	ist (B11) c Invertebra en Sulfide C ason Water d Rhizosphe <b>not tilled)</b> ce of Reduce uck Surface	odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)	ing Roots (	Secondary Surfac Sparse Draina Oxidiz (C3) (wher Crayfis Satura X Geom X FAC-N	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C e tilled) ish Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) eutral Test (D5)
Depth (i Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) it Deposits (B2) posits (B3) it or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9) rations: er Present?	of one require al Imagery (B7	Salt Cru Aquatio Hydrog Dry-Sea Oxidize (where Presend Thin M 7)Other (	ist (B11) : Invertebra en Sulfide C ason Water d Rhizosphe <b>not tilled)</b> ce of Reduce uck Surface Explain in R	odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)		Secondary Surfac Sparse Draina Oxidiz (C3) (wher Crayfis Satura X Geom X FAC-N	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C <b>e tilled)</b> sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) eutral Test (D5) Heave Hummocks (D7) <b>(LRR F)</b>
Depth (i Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Water N Sedimer Drift De Algal Ma Iron Dep Inundati Water-S Field Observ Surface Wat Water Table Saturation P	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) it Deposits (B2) posits (B3) it or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9) rations: er Present? Ye Present? Ye	of one require al Imagery (B7 No	Salt Cru Aquatio Hydrog Dry-Sea Oxidize (where Presend Thin M Other ( X Depth (	ist (B11) Invertebra en Sulfide C ason Water d Rhizosphe <b>not tilled)</b> ce of Reducu uck Surface Explain in R	odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)		C3) C3) C3) C3) C4) C4) C4) C4) C4) C4) C4) C4	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C <b>e tilled)</b> sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) eutral Test (D5) Heave Hummocks (D7) <b>(LRR F)</b>
Depth (i Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati Water-S Field Observ Surface Wat Water Table Saturation P (includes cap	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) it Deposits (B2) posits (B3) it or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9) rations: er Present? Ye present? Ye present? Ye posilary fringe)	al Imagery (B7 es No es No es No es No	Salt Cru Aquatio Hydrog Dry-Sea Oxidize (where Presend Thin M Other ( X Depth (	ist (B11) Invertebra en Sulfide C ason Water d Rhizosphe <b>not tilled)</b> ce of Reduce uck Surface Explain in Re inches): inches):	Odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7) emarks)	Wetland	Secondary Surfac Sparse Draina Oxidiz (C3) (wher Crayfis Satura X Geom X FAC-N Frost-I	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C <b>e tilled)</b> sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) eutral Test (D5) Heave Hummocks (D7) <b>(LRR F)</b>

Project/Site: Parshall Transload Fac	cility	City/Cou	inty:		Makoti/ Ward	ł	Sampl	ing Dat	:e: 8	8/25/2015
	arr Engineerin					North		ing Poi		DP19U
Investigator(s): A Stegeman					ownship, Range:			-		
Landform (hillslope, terrace, etc.):	depression		Local re	elief (co	ncave, convex, n	one):	None	é	Slope (%)	): <5%
		Lat:			Long:				Datum:	NAD83
Soil Map Unit Name:	C2A-To	onka silt loa	Im			NWI cla	ssification:			MA
Are climatic/hydrologic conditions on the site ty			-							
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro								? Yes	X	No
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro										
SUMMARY OF FINDINGS – Attach site			ling po	oint lo	cations, trans	ects, im	portant f	eautr	es, etc.	
=	X No									
Hydric Soil Present? Yes	No	Χ			ampled Area a Wetland?	Yes	N	o X		
Wetland Hydrology Present? Yes	No	Х		within						
Remarks:										
VEGETATION – Use scientific names of	•									
Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicat Status		Dominance	e Test Wo	rksheet:			
incestidium (notside. <u>50                                    </u>	cover	Species:	Status		Number of	Dominan	t Species			
1					That Are O	BL, FACW	, or FAC:		1	(A)
		= Total Cov	ver		Total Num				1	(D)
Sapling/Shrub Stratum (Plot size: <u>15</u>	_)				Species Act				1	(B)
1					Percent of That Are O		•	1	.00.0%	(A/B)
1		= Total Cov	ver		That Are O	DL, FACW	, of FAC.			(.,)
Herb Stratum (Plot size: <u>5</u> )					Prevalence	Index W	orksheet:			
1. Sonchus arvensis	75%	Y	FAC		Total % Co	ver of:		Mult	iply by:	
2. Typha latifolia	15%	N	OBL	L	OBL specie		15%	x 1		
3. <i>Cirsium arvense</i>	10%	N	FAC	U				-		
4	4000/	Tubles			FACW spec		0%	x 2	0.0%	
Woody Vine Stratum (Plot size: <u>30</u> )	100%	_ = Total Cov	ver		FAC specie	s	75%	x 3	225.0%	
					FACU spec	ies	10%	x 4	40.0%	
1					UPL specie	s	0%	x 5	0.0%	
% Bare Ground in Herb Stratum		_ = Total Cov	ver		Column To	tals:	100.0%	(A)	280%	(B)
	-				Prevaler	ice Index :	= B/A =		2.80	
					Hydrophyt	ic Vogoto	tion Indica	orc:		
						•				
							or Hydroph		getation	
							Test if >50%			
					<u>Y</u> 3 - Pre	evalence I	ndex is $\leq 3$ .	0		
							al Adaptat			porting data
					Proble	ematic Hy	drophytic V	'egetat	ion (Explai	in)
					Indicators of present, unle					ust be
					Hydrophyt Vegetatior Present?	ic 1	/es <u>X</u>			
Remarks:										

SOIL

Depth	Matrix			Redox F	eatures				-		
(inches)	Color:	%	Coloi	r: %	Type:	Loc:	Text	ure:	Re	emarks:	
0-20	10YR 2/1	100%					Silt	Loam			
Type: C=Con	centration, D=De	pletion, RM=	=Reduced M	atrix, CS=Covered	d or Coated Sar	d Grains		Location:	PL=Pore Lir	ning, M=M	latrix
Hydric Soil In	ndicators: (Appli	cable to all Li	RRs, unless o	otherwise noted	.)		Indicators	for Probler	natic Hydri	c Soils	
Histosol	(A1)			Sandy Gley	ved Matrix (S4)		1 cm I	Muck (A9) <b>(I</b>	.RR I, J)		
Histic Ep	pipedon (A2)			Sandy Red			Coast	Prarie Redo	ox (A16) <b>(LF</b>	RR F, G, H)	
Black Hi	stic (A3)			Stripped N	latrix (S6)		Dark S	Surface (S7)	(LRR G)		
Hydroge	en Sulfide (A4)			Loamy Mu	cky Mineral (F1	)	High F	Plains Depre	essions (F16	5)	
Stratifie	d Layers (A5) (L	RR F)		Loamy Gle	yed Matrix (F2)		(LRR H	l outside o	f MLRA 72	& 73)	
1 cm Mi	uck (A9) <b>(LRR F, G</b>	i <i>,</i> H)		Depleted N	/latrix (F3)		Reduc	ed Vertic (I	-18)		
Deplete	d Below Dark Su	rface (A11)		Redox Dar	k Surface (F6)		Red Pa	arent Mate	rial (TF2)		
Thick Da	ark Surface (A12)	1		Depleted D	Oark Surface (F7	')	Very S	Shallow Dar	k Surface (1	FF12)	
Sandy N	/luck Mineral (S1	)		Redox Dep	ressions (F8)		Other	(Explain in	Remarks)		
2.5 cm M	Mucky Peat or Pe	eat (S2) <b>(LRR</b>	G, H)	High PLain	s Depression (F	16)	Indicators	of hydrophy	ytic vegetat	ion and w	/etland
5 cm Mi	ucky Peat or Pea	t (S3) <b>(LRR F</b> )	)	(MLRA 72	& 73 of LRR H)		hydrology problemati		esent, unles	s disturbe	d or
	ayer (if present)	:					·				
Type:							Hydric Soil	Present?	Yes	No	х
Depth (ir Remarks:	nches):										
Remarks:											
Remarks: HYDROLOG	5Y										
Remarks: HYDROLOG Wetland Hyc	GY drology Indicato		red: check a	ll that apply)			Sec	condary Inc	licators (2 c	or more re	quired)
Remarks: HYDROLOG Wetland Hyc Primary Indic	<b>5Y</b> drology Indicato cators (minimum						<u>Sec</u>		licators (2 c		quired)
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V	<b>5Y</b> drology Indicato cators (minimum Water (A1)			Salt Crust (B11)	rates (B13)		Set	Surface So	oil Cracks (E	36)	
Remarks: <b>HYDROLOG</b> Wetland Hyc Primary Indic Surface V High Wat	<b>GY</b> drology Indicato cators (minimum Water (A1) ter Table (A2)			Salt Crust (B11) Aquatic Inverteb			See	Surface So Sparsely \	oil Cracks (E /egetated C	36) Concave Su	
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wat Saturatic	GY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3)			Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide	e Odor (C1)		<u>Sec</u>	Surface So Sparsely V Drainage	oil Cracks (E /egetated C Patterns (B	36) Concave Su 10)	urface (B8
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wat Saturatic Water M	<b>GY</b> drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) larks (B1)			Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wat	e Odor (C1) er Table (C2)	ting Boots		Surface So Sparsely V Drainage Oxidized I	oil Cracks (E /egetated C Patterns (B Rhizosphere	36) Concave Su 10)	urface (B8
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wat Saturatic Water M Sedimen	<b>GY</b> drology Indicator cators (minimum Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2)			Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wat Oxidized Rhizosp	e Odor (C1) er Table (C2) oheres along Liv	ring Roots		Surface So Sparsely V Drainage Oxidized I (where til	oil Cracks (E /egetated C Patterns (B Rhizosphere <b>lled)</b>	36) Concave Su 10) es on Livin	urface (B8
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wat Saturatic Water M Sedimen Drift Dep	<b>GY</b> drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) larks (B1)			Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wat	e Odor (C1) er Table (C2) oheres along Liv d)	ing Roots		Surface So Sparsely V Drainage Oxidized I (where til Crayfish B	oil Cracks (E /egetated C Patterns (B Rhizosphere	36) Concave Su 10) es on Livin	urface (B8 g Roots (
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wat Saturatic Water M Sedimen Drift Dep Algal Ma	<b>GY</b> drology Indicator cators (minimum Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3)			Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wat Oxidized Rhizosp (where not tilled	e Odor (C1) er Table (C2) oheres along Liv d) uced Iron (C4)	ing Roots		Surface So Sparsely V Drainage Oxidized I <b>(where ti</b> Crayfish B Saturation	oil Cracks (E /egetated C Patterns (B Rhizosphere Iled) Surrows (C8	36) Concave Su 10) es on Livin ) Aerial Ima	urface (B8 g Roots (
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wat Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep	<b>GY</b> drology Indicator cators (minimum Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4)	of one requi		Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wat Oxidized Rhizosp (where not tilled Presence of Red	e Odor (C1) er Table (C2) oheres along Liv <b>s)</b> uced Iron (C4) ce (C7)	ring Roots		Surface So Sparsely V Drainage Oxidized I <b>(where ti</b> Crayfish E Saturation Geomorp	oil Cracks (E /egetated C Patterns (B Rhizosphere Iled) Surrows (C8 n Visible on	36) Concave Su 10) es on Livin ) Aerial Ima a (D2)	urface (B8 g Roots (
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wat Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic	GY drology Indicator cators (minimum Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5)	of one requi		Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wat Oxidized Rhizosp (where not tilled Presence of Red Thin Muck Surfa	e Odor (C1) er Table (C2) oheres along Liv <b>s)</b> uced Iron (C4) ce (C7)	ring Roots		Surface So Sparsely V Drainage Oxidized I (where til Crayfish B Saturation Geomorp FAC-Neut	bil Cracks (E /egetated C Patterns (B Rhizosphere I <b>led)</b> Rurrows (C8 n Visible on hic Position	36) Concave Su 10) es on Livin ) Aerial Ima h (D2) ;)	urface (B8 g Roots (
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wat Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic	<b>GY</b> drology Indicator cators (minimum Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Aer cained Leaves (B5)	of one requi		Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wat Oxidized Rhizosp (where not tilled Presence of Red Thin Muck Surfa	e Odor (C1) er Table (C2) oheres along Liv <b>s)</b> uced Iron (C4) ce (C7)	ing Roots		Surface So Sparsely V Drainage Oxidized I (where til Crayfish B Saturation Geomorp FAC-Neut	bil Cracks (E /egetated C Patterns (B Rhizosphere Iled) Surrows (C8 n Visible on hic Position ral Test (D5	36) Concave Su 10) es on Livin ) Aerial Ima h (D2) ;)	urface (B8 g Roots ( agery (C9
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High War Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Water-St	GY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5) on Visible on Aer cained Leaves (B5) ations:	of one requi	B7)	Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wat Oxidized Rhizosp (where not tilled Presence of Red Thin Muck Surfa	e Odor (C1) er Table (C2) oheres along Liv <b>s)</b> uced Iron (C4) ce (C7)	ring Roots		Surface So Sparsely V Drainage Oxidized I (where til Crayfish B Saturation Geomorp FAC-Neut	bil Cracks (E /egetated C Patterns (B Rhizosphere Iled) Surrows (C8 n Visible on hic Position ral Test (D5	36) Concave Su 10) es on Livin ) Aerial Ima h (D2) ;)	urface (B8 g Roots ( agery (C9
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wat Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Water-St Field Observ	GY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5) on Visible on Aer cained Leaves (B9 ations: er Present?	rial Imagery (I 9) Yes N	B7)	Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wat Oxidized Rhizosp (where not tilled Presence of Red Thin Muck Surfa Other (Explain in Depth (inches):	e Odor (C1) er Table (C2) oheres along Liv <b>s)</b> uced Iron (C4) ce (C7)		(C3)	Surface So Sparsely \ Drainage Oxidized I <b>(where ti</b> Crayfish E Saturation Geomorp FAC-Neut Frost-Hea	Dil Cracks (E /egetated C Patterns (B Rhizosphere Iled) Surrows (C8 n Visible on hic Position ral Test (D5 ve Hummo	36) Concave Su 10) es on Livin Aerial Ima n (D2) 5) cks (D7)	g Roots ( agery (C9 (LRR F)
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High War Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Water-St Field Observa Surface Water Saturation Pr	<b>GY</b> drology Indicator cators (minimum Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Aer tained Leaves (B2) ations: er Present? Present?	i of one requi rial Imagery (I Ə)	B7)	Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wat Oxidized Rhizosp (where not tilled Presence of Red Thin Muck Surfa Other (Explain in	e Odor (C1) er Table (C2) oheres along Liv <b>s)</b> uced Iron (C4) ce (C7)			Surface So Sparsely \ Drainage Oxidized I <b>(where ti</b> Crayfish E Saturation Geomorp FAC-Neut Frost-Hea	bil Cracks (E /egetated C Patterns (B Rhizosphere Iled) Surrows (C8 n Visible on hic Position ral Test (D5	36) Concave Su 10) es on Livin Aerial Ima n (D2) i) cks (D7)	g Roots ( agery (C9 (LRR F)
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wat Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Water-St Field Observa Surface Water Surface Water Surface Table Saturation Pr (includes cap	GY drology Indicato cators (minimum Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5) on Visible on Aer cained Leaves (B5) ations: er Present? Present? resent?	rial Imagery (I 9) Yes N Yes N Yes N	B7)	Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wat Oxidized Rhizosp (where not tilled Presence of Red Thin Muck Surfa Other (Explain ir Depth (inches): Depth (inches):	e Odor (C1) er Table (C2) oheres along Liv <b>1)</b> uced Iron (C4) ce (C7) I Remarks)	Wetland	(C3)	Surface So Sparsely \ Drainage Oxidized I <b>(where ti</b> Crayfish E Saturation Geomorp FAC-Neut Frost-Hea	Dil Cracks (E /egetated C Patterns (B Rhizosphere Iled) Surrows (C8 n Visible on hic Position ral Test (D5 ve Hummo	36) Concave Su 10) es on Livin Aerial Ima n (D2) 5) cks (D7)	g Roots ( agery (C9 (LRR F)

Project/Site: Parshall Trar	nsload Facility	City/County:	Mak	oti/ Ward	Sampling	g Date: 8	3/25/2015
Applicant/Owner:	Barr Engineeri			North	Sampling	g Point:	DP1W
	Stegeman & M Keller	S	ection, Township	, Range:	18 , 152N,	, 87W	
Landform (hillslope, terrace, etc.):	depressio			convex, none):	Concave		
• • •	RR-F		980235		01.869784	Datum:	NAD83
Soil Map Unit Name:		A-Hamerly loam			lassification:	-	MCd
Are climatic/hydrologic conditions on t Are Vegetation Yes , Soil No		•			•	-	No
Are Vegetation <u>Ves</u> , soil <u>No</u> Are Vegetation No , Soil No				led, explain in Rer			
SUMMARY OF FINDINGS – Atta		-				utres etc.	
Hydrophytic Vegetation Present?				<i>s, transcets, m</i>			
Hydric Soil Present?		)	Is the Sampled	Area			
			within a Wetla	ind? Ye	s <u>X</u> No		
Wetland Hydrology Present?	Yes X No	)					
Remarks:							
Field is recently hayed							
VEGETATION – Use scientific n	ames of plants						
	Absolute %	Dominant India	cator D	ominance Test W	orksheet:		
Tree Stratum (Plot size: <u>30</u>	) Cover	Species? Stat	us	umber of Domina			
				hat Are OBL, FAC	•	1	(A)
1		= Total Cover	T	otal Number of De	ominant		
Sapling/Shrub Stratum (Plot size: 1			S	pecies Across All S	itrata:	1	(B)
				ercent of Domina	•	100.00/	( ) ( )
1	· ·	= Total Cover	T	hat Are OBL, FAC	N, or FAC:	100.0%	(A/B)
Herb Stratum (Plot size: <u>5</u>			Р	revalence Index V	Vorksheet:		
1. Phalaris arundinacea	90%	Y FA	CW	otal % Cover of:		Multiply by:	
2. Persicaria amphibia	10%	<u>N</u> C	DBL		<u> </u>		
3				BL species _		1 10.0%	
Woody Vine Stratum (Plot size: <u>30</u>	) 100%	= Total Cover		ACW species		2 180.0%	
	,		F,	AC species _	<u>    0%                                </u>	3 0.0%	
1			F/	ACU species	<u>    0%                                </u>	4 0.0%	
% Bare Ground in Herb Stratum	0.00%	= Total Cover	U	PL species	0% x	5 0.0%	
			C	olumn Totals:	100.0% (/	A) 190%	(B)
				Prevalence Index	κ = B/A =	1.90	
			н	ydrophytic Veget	ation Indicator	s:	
					for Hydrophyti		
			-	Y 2 - Dominance		- · · · · · · · · · · · · · · · · · · ·	
			-	Y 3 - Prevalence		(5	
			_		ical Adaptatior on a seperate s		porting data
				Problematic H	ydrophytic Veg	etation (Expla	in)
				icators of hydric s			ust be
			-	sent, unless distu <b>ydrophytic</b>	rbed or probler	natic	
			v	egetation resent?	Yes <u>X</u> N	0	
Remarks:							

~	^		
~	"	I	
_	J		-

	Matrix			Redox Fea	tures				
(inches)	Color:	%	Color:	%	Type:	Loc:	Тех	ture:	Remarks:
0-12	N 2.5/	95%	10YR 3/6	5%	С	PL	L	.oam	
12-20	10YR 5/1	100%					Cla	y Loam	
Type: C=Cor	centration, D=Dep	letion, RM=R	educed Matrix	, CS=Covered o	r Coated Sand	d Grains		Location	: PL=Pore Lining, M=Matrix
Hydric Soil I	ndicators: (Applica	able to all LRR	Rs, unless othe	rwise noted.)			Indicators	for Proble	ematic Hydric Soils
Histoso	l (A1)			Sandy Gleyed	l Matrix (S4)		1 cm	Muck (A9)	(LRR I, J)
Histic E	pipedon (A2)			Sandy Redox	(S5)		Coas	t Prarie Ree	dox (A16) <b>(LRR F, G, H)</b>
Black H	istic (A3)			Stripped Mat	rix (S6)		Dark	Surface (SZ	7) (LRR G)
Hydrog	en Sulfide (A4)			Loamy Mucky	y Mineral (F1)		High	Plains Dep	ressions (F16)
Stratifie	ed Layers (A5) (LR	RF)		Loamy Gleye	d Matrix (F2)		(LRR	H outside	of MLRA 72 & 73)
1 cm M	uck (A9) <b>(LRR F, G,</b>	Н)		Depleted Ma	trix (F3)		Redu	ced Vertic	(F18)
X Deplete	ed Below Dark Surf	face (A11)		Redox Dark S	urface (F6)		Red I	Parent Mat	erial (TF2)
Thick D	ark Surface (A12)			Depleted Dar	k Surface (F7)	)	Very	Shallow Da	ark Surface (TF12)
Sandy I	Muck Mineral (S1)		X	Redox Depres	ssions (F8)		Othe	r (Explain i	n Remarks)
2.5 cm	Mucky Peat or Pea	at (S2) <b>(LRR G</b>	<i>,</i> H)	High PLains D	epression (F1	L6)			hytic vegetation and wetland
5 cm M	ucky Peat or Peat	(S3) <b>(LRR F)</b>		(MLRA 72 & 7	73 of LRR H)		hydrology problema		resent, unless disturbed or
Restrictive L	ayer (if present):						1		
Type: r	าล								
							Hydric So	I Present?	Yes X No
Depth (i Remarks:	ncnes):						Hyaric So	il Present?	Yes <u>X</u> No
Remarks:							Hyaric Sol	l Present?	Yes <u>X</u> No
Remarks: HYDROLO	GY						Hyaric Sol	l Present?	Yes <u>X</u> No
Remarks: HYDROLO Wetland Hy			ed; check all that	at apply)					Yes <u>X</u> No
Remarks: HYDROLO Wetland Hy Primary Indi	GY drology Indicators			at apply) Crust (B11)				econdary Ir	
Remarks: HYDROLO Wetland Hy Primary Indi Surface	GY drology Indicators cators (minimum o		X Salt		tes (B13)			econdary Ir Surface :	ndicators (2 or more required)
Remarks: HYDROLO Wetland Hy Primary Indi Surface	<b>GY</b> drology Indicators cators (minimum o Water (A1) iter Table (A2)		<u>X</u> Salt Aqu	Crust (B11)				econdary Ir Surface Sparsely	ndicators (2 or more required) Soil Cracks (B6)
Remarks: HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati	<b>GY</b> drology Indicators cators (minimum o Water (A1) iter Table (A2)		X Salt Aqu Hyd	Crust (B11) atic Invertebrat	dor (C1)		<u>S</u> e	econdary Ir Surface : Sparsely Drainage	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8
Remarks: HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water N	<b>GY</b> drology Indicators cators (minimum o Water (A1) uter Table (A2) on (A3)		X_Salt Aqu Hyd Dry-	Crust (B11) atic Invertebrat rogen Sulfide C	dor (C1) Table (C2)	ing Roots (		econdary Ir Surface : Sparsely Drainage	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8 e Patterns (B10) I Rhizospheres on Living Roots (C
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De	<b>GY</b> drology Indicators cators (minimum o Water (A1) iter Table (A2) on (A3) 1arks (B1) it Deposits (B2) posits (B3)		X_Salt Aqu Hyd Dry- _X_Oxic (wh	Crust (B11) atic Invertebrat rogen Sulfide C Season Water lized Rhizosphe ere not tilled)	odor (C1) Table (C2) eres along Livi	ing Roots (		econdary Ir Surface Sparsely Drainage Oxidizec (where f Crayfish	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8 e Patterns (B10) I Rhizospheres on Living Roots (C <b>tilled)</b> Burrows (C8)
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma	<b>GY</b> drology Indicators cators (minimum of Water (A1) ther Table (A2) on (A3) farks (B1) farks (B1) ft Deposits (B2) posits (B3) at or Crust (B4)		X Salt Aqu Hyd Dry- X Oxic Pres	Crust (B11) atic Invertebrat rogen Sulfide C Season Water lized Rhizosphe ere not tilled) sence of Reduce	odor (C1) Table (C2) eres along Livi ed Iron (C4)	ing Roots (	<u>Se</u> 	econdary Ir Surface Sparsely Drainage Oxidized (where f Crayfish Saturatio	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8 e Patterns (B10) I Rhizospheres on Living Roots (C <b>tilled)</b> Burrows (C8) on Visible on Aerial Imagery (C9)
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Deg	GY drology Indicators cators (minimum of Water (A1) Iter Table (A2) on (A3) Marks (B1) It Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	of one require	X_Salt Aqu Hyd Dry- X_Oxic Wh Pres Thin	Crust (B11) atic Invertebrat rogen Sulfide C Season Water lized Rhizosphe ere not tilled) sence of Reduce Muck Surface	odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)	ing Roots (	<u>Se</u> 	econdary Ir Surface Sparsely Drainage Oxidizec (where f Crayfish Saturatio (Geomor	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8 e Patterns (B10) I Rhizospheres on Living Roots (C tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Remarks: HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Deg Inundat	GY drology Indicators cators (minimum of Water (A1) Iter Table (A2) on (A3) Marks (B1) It Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria	of one require	X_Salt Aqu Hyd Dry- X_Oxic Wh Pres Thin	Crust (B11) atic Invertebrat rogen Sulfide C Season Water lized Rhizosphe ere not tilled) sence of Reduce	odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)	ing Roots (	<u>Se</u> 	econdary Ir Surface Sparsely Drainage Oxidizec (where f Crayfish Saturatio Geomor FAC-Neu	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8 e Patterns (B10) I Rhizospheres on Living Roots (C tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
Remarks: HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Deg Inundat	GY drology Indicators cators (minimum of Water (A1) Iter Table (A2) on (A3) Marks (B1) It Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	of one require	X_Salt Aqu Hyd Dry- X_Oxic Wh Pres Thin	Crust (B11) atic Invertebrat rogen Sulfide C Season Water lized Rhizosphe ere not tilled) sence of Reduce Muck Surface	odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)	ing Roots (	<u>Se</u> 	econdary Ir Surface Sparsely Drainage Oxidizec (where f Crayfish Saturatio Geomor FAC-Neu	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8 e Patterns (B10) I Rhizospheres on Living Roots (C tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Remarks: HYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Deg Inundat	<b>GY</b> drology Indicators cators (minimum of Water (A1) Iter Table (A2) on (A3) Marks (B1) It Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9)	of one require	X_Salt Aqu Hyd Dry- X_Oxic Wh Pres Thin	Crust (B11) atic Invertebrat rogen Sulfide C Season Water lized Rhizosphe ere not tilled) sence of Reduce Muck Surface	odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)	ing Roots (	<u>Se</u> 	econdary Ir Surface Sparsely Drainage Oxidizec (where f Crayfish Saturatio Geomor FAC-Neu	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8 e Patterns (B10) I Rhizospheres on Living Roots (C tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Deg Inundat X Water-S	GY drology Indicators cators (minimum of Water (A1) Iter Table (A2) on (A3) Marks (B1) It Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9) vations:	of one require	X_Salt Aqu Hyd Dry- X_Oxic (wh Pres Thin 7)Othe	Crust (B11) atic Invertebrat rogen Sulfide C Season Water lized Rhizosphe ere not tilled) sence of Reduce Muck Surface	odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)	ing Roots (	<u>Se</u> 	econdary Ir Surface Sparsely Drainage Oxidizec (where f Crayfish Saturatio Geomor FAC-Neu	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8 e Patterns (B10) I Rhizospheres on Living Roots (C tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
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Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Deg Inundat X Water-S Field Observ Surface Wat Water Table Saturation P	GY drology Indicators cators (minimum of Water (A1) Inter Table (A2) on (A3) Marks (B1) Int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9) vations: er Present? Ye Present? Ye	of one require al Imagery (B7 No	X Salt Aqu Hyd Dry- X Oxic (wh Pres Thin 7) Othe 0 X Dep	Crust (B11) atic Invertebrat rogen Sulfide C Season Water dized Rhizosphe ere not tilled) sence of Reduce Muck Surface er (Explain in Re th (inches):	odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)		(C3)	econdary Ir Surface Sparsely Drainage Oxidizeo (where f Crayfish Saturatio Geomor FAC-Neu Frost-He	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8 e Patterns (B10) I Rhizospheres on Living Roots (C tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eave Hummocks (D7) (LRR F)
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Deg Inundat X Water-S Field Observ Surface Wat Water Table Saturation P (includes ca	GY drology Indicators cators (minimum of Water (A1) Iter Table (A2) on (A3) Marks (B1) It Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9) vations: er Present? Ye	al Imagery (B7 es No es No es No es No	X Salt Aqu Hyd Dry- X Oxic (wh Pres Thin 7) Othe 5 X Dep 5 X Dep 6 X Dep	Crust (B11) atic Invertebrat rogen Sulfide C Season Water lized Rhizosphe ere not tilled) sence of Reduce Muck Surface er (Explain in Re th (inches): th (inches):	odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7) emarks)	Wetland	(C3)	econdary Ir Surface Sparsely Drainage Oxidizeo (where f Crayfish Saturatio Geomor FAC-Neu Frost-He	ndicators (2 or more required) Soil Cracks (B6) Vegetated Concave Surface (B8 e Patterns (B10) I Rhizospheres on Living Roots (C tilled) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eave Hummocks (D7) (LRR F)

Project/Site: Parshall Transload	Facility	City/Cou	inty:		Makoti/ Ward	I	Sam	pling Da	te: 8	/25/2015
Applicant/Owner:	Barr Engineerir		' _			North		ipling Poi		DP20W
Investigator(s): A Stegem	an & M Keller		Se	ction, Tow	nship, Range:		13,1	52N, 88\	N	
Landform (hillslope, terrace, etc.):	depression		Local r	relief (conca	ave, convex, no	one):	Con	cave	Slope (%)	: <5%
Subregion (LRR): LRR-F		Lat:	47.9	81786	Long:	-101.	882279		Datum:	NAD83
Soil Map Unit Name:	C272A-Ham					NWI clas			PEI	MC
Are climatic/hydrologic conditions on the site										
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hy								nt? Yes	X	No
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hy					needed, expla					
SUMMARY OF FINDINGS – Attach si			ling po	oint locat	tions, transe	ects, imp	ortant	feautr	es, etc.	]
				In the Case						
Hydric Soil Present? Yes	S <u>X</u> No			is the San within a V	npled Area	Yes	х	No		
Wetland Hydrology Present? Yes	S <u>X</u> No			within a v	vetianu:					
Remarks:										
VEGETATION – Use scientific names	of plants									
Tree Stratum (Plot size: 30 )	Absolute %	Dominant	Indica		Dominance	e Test Wor	ksheet:			
<u>1166 Stratum</u> (Flot size. <u>30</u> )	Cover	Species?	Statu	5	Number of	Dominant	Species			
1					That Are O	BL, FACW,	or FAC:		3	(A)
1		= Total Cov	ver		Total Num	per of Dom	ninant		_	(-)
Sapling/Shrub Stratum (Plot size: <u>15</u>	)				Species Acr				3	(B)
					Percent of		•		L00.0%	(A/B)
1		= Total Cov	ver		That Are O	BL, FACW,	or FAC:		100.076	(A) D)
Herb Stratum (Plot size: <u>5</u> )			ver		Prevalence	Index Wo	rksheet	•		
1. Phalaris arundinacea	50%	Y	FAG	CW	Total % Cov				iply by:	
2. Persicaria amphibia	20%	Y	01	BL			0.00/			
3. Spartina pectinata	20%	Y	FAG	CW	OBL specie		30%	x 1	30.0%	
4. Typha latifolia	10%	Ν	0	BL	FACW spec	ies	70%	x 2	140.0%	
5					FAC species	s	0%	x 3	0.0%	
Woody Vine Stratum (Plot size: <u>30</u>	100%	= Total Cov	ver		FACU speci	es	0%	x 4	0.0%	
(Flot size: 30	_/				UPL species	s	0%	x 5	0.0%	
1					Column To	tals: 1	L00.0%	(A)	170%	(B)
% Bare Ground in Herb Stratum		= Total Cov	ver		Prevalen	ce Index =	B/A =		1.70	
							-		1.70	_
					Hydrophyt	ic Vegetat	ion India	ators:		
					1 - Raj	pid Test fo	r Hydrop	hytic Ve	getation	
					Y 2 - Do	minance T	est if >5	0%		
					<u>Y</u> 3 - Pre	evalence In	dex is ≤	3.0		
						orphologica narks or or				porting data
							•		ion (Explai	n)
					Indicators of present, unle					ist be
					Hydrophyt			JUCHIAL		
					Vegetation Present?	Ye	es <u>X</u>	No		
Remarks:					1					

Depth	Matri	x			Redox Fea	tures			
(inches)	Color:	%		Color:	%	Type:	Loc:	Texture:	Remarks:
0-20	10YR 2/1	95%	, )	10YR 5/6	5%	С	М	Silt Loam	
Type: C=Con	centration, D=D	epletion, R	M=Redu	uced Matrix, C	S=Covered o	r Coated Sand	Grains	Location:	PL=Pore Lining, M=Matrix
Hydric Soil Ir	dicators: (Appl	icable to al	I I RRs. I	unless otherw	ise noted.)			Indicators for Problem	natic Hydric Soils
Histosol						l Matrix (S4)		1 cm Muck (A9) <b>(I</b>	-
	oipedon (A2)				andy Redox				ox (A16) <b>(LRR F, G, H)</b>
Black Hi					tripped Mat			Dark Surface (S7)	
	en Sulfide (A4)					y Mineral (F1)		High Plains Depre	
	d Layers (A5) (	LRR F)			-	d Matrix (F2)		(LRR H outside o	
	uck (A9) <b>(LRR F,</b> (				epleted Ma			Reduced Vertic (I	
Deplete	d Below Dark Su	urface (A11	.)	R	edox Dark S	urface (F6)		Red Parent Mate	rial (TF2)
Thick Da	irk Surface (A12	.)		C	epleted Dar	k Surface (F7)		Very Shallow Dar	k Surface (TF12)
	luck Mineral (S				edox Depre			Other (Explain in	
	Aucky Peat or P				-	Pepression (F1	6)		ytic vegetation and wetland
5 cm M	ucky Peat or Pea	at (S3) <b>(LRF</b>	RF)	(	MLRA 72 & 1	73 of LRR H)		problematic.	esent, unless disturbed or
Restrictive L	ayer (if present	):						problematic.	
Type:									Maa Mila
								Hydric Soil Present?	Yes X No
Depth (ir	ches):								
Depth (ir Remarks:	iches):			_					
Remarks:									
Remarks: HYDROLOG	ΞΥ							·	
Remarks: HYDROLOG Wetland Hyd	iY Irology Indicato								
Remarks: HYDROLOG Wetland Hyd Primary India	i <b>Y</b> Irology Indicato ators (minimun		quired; (					Secondary Inc	licators (2 or more required)
Remarks: <b>HYDROLOG</b> Wetland Hyd Primary Indic Surface N	i <b>Y</b> I <b>rology Indicato</b> ators (minimun Vater (A1)		quired; (	Salt Cru	ust (B11)	tes (B13)		Secondary Inc Surface So	licators (2 or more required) pil Cracks (B6)
Remarks: <b>HYDROLOG</b> Wetland Hyo Primary Indic Surface V High Wa	i <b>Y</b> I <b>rology Indicato</b> ators (minimun Vater (A1) :er Table (A2)		quired; (	Salt Cru Aquation	ust (B11) c Invertebra			Secondary Inc Surface So Sparsely \	licators (2 or more required) oil Cracks (B6) /egetated Concave Surface (B8
Remarks: <b>HYDROLOG</b> Wetland Hyd Primary Indic Surface N	i <b>Y</b> I <mark>rology Indicato</mark> ators (minimun Vater (A1) :er Table (A2) n (A3)		quired; c	Salt Cri Aquati Hydrog	ust (B11)	dor (C1)		Secondary Inc Surface So Sparsely V Drainage	licators (2 or more required) pil Cracks (B6)
Remarks: HYDROLOG Wetland Hyo Primary Indio Surface V High Wa Saturatio Water M	i <b>Y</b> I <mark>rology Indicato</mark> ators (minimun Vater (A1) :er Table (A2) n (A3)		quired;	Salt Cro Aquatio Hydrog Dry-Se	ust (B11) c Invertebra gen Sulfide C ason Water	dor (C1)	ng Roots (	Secondary Inc Surface So Sparsely \ Drainage Oxidized I	licators (2 or more required) pil Cracks (B6) /egetated Concave Surface (B8 Patterns (B10) Rhizospheres on Living Roots (C
Remarks: HYDROLOG Wetland Hyo Primary Indio Surface V High Wa Saturatio Water M Sedimen Drift Dep	i <b>Y</b> Irology Indicato ators (minimun Vater (A1) :er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)		quired; d	Salt Cru Aquatio Hydrog Dry-Se Oxidize <b>(where</b>	ust (B11) c Invertebra gen Sulfide C ason Water ed Rhizosphe e <b>not tilled)</b>	odor (C1) Table (C2) eres along Livir	ng Roots (	Secondary Inc Surface So Sparsely V Drainage Oxidized I C3) (where ti Crayfish B	dicators (2 or more required) bil Cracks (B6) /egetated Concave Surface (B8 Patterns (B10) Rhizospheres on Living Roots (C <b>lled)</b> Burrows (C8)
Remarks: HYDROLOG Wetland Hyd Primary India Surface V High Wa Saturatia Water M Sedimen Drift Dep Algal Ma	i <b>Y</b> Irology Indicato ators (minimun Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)		quired; (	Salt Cru Aquati Hydrog Dry-Se Oxidize <b>(where</b> Presen	ust (B11) c Invertebra gen Sulfide C ason Water ed Rhizosphe e <b>not tilled)</b> ce of Reduce	Odor (C1) Table (C2) eres along Livir ed Iron (C4)	ng Roots (	Secondary Inc Surface So Sparsely V Drainage Oxidized I C3) (where ti Crayfish B X Saturation	dicators (2 or more required) oil Cracks (B6) /egetated Concave Surface (B8 Patterns (B10) Rhizospheres on Living Roots (C <b>lled)</b> Burrows (C8) n Visible on Aerial Imagery (C9)
Remarks: HYDROLOG Wetland Hyd Primary Indio Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep	iY ators (minimum Vater (A1) cer Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	n of one red		Salt Cru Aquati Hydrog Dry-Se Oxidize Presen Thin M	ust (B11) c Invertebra gen Sulfide C ason Water ed Rhizosphe e not tilled) ce of Reduce uck Surface	odor (C1) Table (C2) eres along Livir ed Iron (C4) (C7)	ng Roots (	Secondary Inc Surface So Sparsely V Drainage Oxidized I C3) (where ti Crayfish B X Saturation X Geomorp	dicators (2 or more required) oil Cracks (B6) /egetated Concave Surface (B8 Patterns (B10) Rhizospheres on Living Roots (C <b>lled)</b> Burrows (C8) n Visible on Aerial Imagery (C9) hic Position (D2)
Remarks: HYDROLOG Wetland Hyd Primary India Surface V High Wa Saturatia Water M Sedimen Drift Dep Algal Ma Iron Dep X Inundatia	i <b>Y</b> Irology Indicato ators (minimun Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	n of one red rial Imager		Salt Cru Aquati Hydrog Dry-Se Oxidize Presen Thin M	ust (B11) c Invertebra gen Sulfide C ason Water ed Rhizosphe e <b>not tilled)</b> ce of Reduce	odor (C1) Table (C2) eres along Livir ed Iron (C4) (C7)	ng Roots (	Secondary Inc Surface So Sparsely V Drainage Oxidized I C3) (where ti X Saturation X Geomorp X FAC-Neut	dicators (2 or more required) oil Cracks (B6) /egetated Concave Surface (B8 Patterns (B10) Rhizospheres on Living Roots (C <b>lled)</b> Burrows (C8) n Visible on Aerial Imagery (C9) hic Position (D2)
Remarks: HYDROLOG Wetland Hyo Primary Indio Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep X Inundatio	iY ators (minimum Vater (A1) cer Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Ae ained Leaves (B	n of one red rial Imager		Salt Cru Aquati Hydrog Dry-Se Oxidize Presen Thin M	ust (B11) c Invertebra gen Sulfide C ason Water ed Rhizosphe e not tilled) ce of Reduce uck Surface	odor (C1) Table (C2) eres along Livir ed Iron (C4) (C7)	ng Roots (	Secondary Inc Surface So Sparsely V Drainage Oxidized I C3) (where ti X Saturation X Geomorp X FAC-Neut	dicators (2 or more required) oil Cracks (B6) /egetated Concave Surface (B8 Patterns (B10) Rhizospheres on Living Roots (C Iled) Burrows (C8) n Visible on Aerial Imagery (C9) hic Position (D2) ral Test (D5)
Remarks: HYDROLOC Wetland Hyc Primary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep X Inundati Water-St	iY Irology Indicato ators (minimun Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Ae ained Leaves (B	n of one red rial Imager	γ (B7)	Salt Cru Aquati Hydrog Dry-Se Oxidize (where Presen Thin M Other (	ust (B11) c Invertebra gen Sulfide C ason Water ed Rhizosphe e not tilled) ce of Reduce uck Surface	odor (C1) Table (C2) eres along Livir ed Iron (C4) (C7)	ng Roots (	Secondary Inc Surface So Sparsely V Drainage Oxidized I C3) (where ti X Saturation X Geomorp X FAC-Neut	dicators (2 or more required) oil Cracks (B6) /egetated Concave Surface (B8 Patterns (B10) Rhizospheres on Living Roots (C Iled) Burrows (C8) n Visible on Aerial Imagery (C9) hic Position (D2) ral Test (D5)
Remarks: HYDROLOG Wetland Hyo Primary Indio Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep X Inundatio Water-St Field Observ	FY Irology Indicato ators (minimum Vater (A1) cer Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Ae ained Leaves (B ations: er Present?	n of one red rial Imager 9)	y (B7) _ No	X Depth	ust (B11) c Invertebra gen Sulfide C ason Water ed Rhizosphe <b>e not tilled)</b> ce of Reduce uck Surface Explain in R	odor (C1) Table (C2) eres along Livir ed Iron (C4) (C7)		Secondary Inc Surface So Sparsely N Drainage Oxidized I C3) (where ti X Saturation X Geomorp X FAC-Neut Frost-Hea	dicators (2 or more required) oil Cracks (B6) /egetated Concave Surface (B8 Patterns (B10) Rhizospheres on Living Roots (C <b>lled)</b> Burrows (C8) n Visible on Aerial Imagery (C9) hic Position (D2) ral Test (D5) ive Hummocks (D7) <b>(LRR F)</b>
Remarks: HYDROLOG Wetland Hyd Primary India Surface V High Wa Saturatia Water M Sedimen Drift Dep Algal Ma Iron Dep X Inundatia Water-St Field Observ Surface Water Saturation Pio	iY irology Indicato ators (minimum Vater (A1) cer Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Ae ained Leaves (B ations: er Present? Present?	rial Imager 9) Yes	y (B7) No No	X Depth	ust (B11) c Invertebra gen Sulfide C ason Water ed Rhizosphe e not tilled) ce of Reduce uck Surface Explain in Re (inches):	odor (C1) Table (C2) eres along Livir ed Iron (C4) (C7)		Secondary Inc Surface So Sparsely V Drainage Oxidized I C3) (where ti X Saturation X Geomorp X FAC-Neut	dicators (2 or more required) oil Cracks (B6) /egetated Concave Surface (B8 Patterns (B10) Rhizospheres on Living Roots (C Iled) Burrows (C8) n Visible on Aerial Imagery (C9) hic Position (D2) ral Test (D5)
Remarks: HYDROLOG Wetland Hyd Primary India Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep X Inundatii Water-St Field Observ Surface Water Surface Water Saturation Pr (includes cap	iY irology Indicato ators (minimum Vater (A1) cer Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Ae ained Leaves (B ations: er Present? Present?	rial Imager 9) Yes Yes Yes	y (B7) _ No _ No _ No	X Depth X Depth X Depth	ust (B11) c Invertebra gen Sulfide C ason Water ed Rhizosphe <b>e not tilled)</b> ce of Reduce uck Surface Explain in Re (inches): (inches):	Odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7) emarks)	Wetland	Secondary Inc Surface So Sparsely V Drainage Oxidized I C3) (where ti X Saturation X Geomorp X FAC-Neut Frost-Hea Hydrology Present?	dicators (2 or more required) oil Cracks (B6) /egetated Concave Surface (B8 Patterns (B10) Rhizospheres on Living Roots (C <b>lled)</b> Burrows (C8) n Visible on Aerial Imagery (C9) hic Position (D2) ral Test (D5) ive Hummocks (D7) <b>(LRR F)</b>

Project/Site: Parshall	Transload Fac	·ilitv	City/Cou	untv		Makoti/ War	4	Sampli	ng Dat	<u>م</u> و	8/25/2015
Applicant/Owner:		arr Engineerin		unty		-	North	Sampli	-		DP21U
Investigator(s):	A Stegeman			Sec		wnship, Range:		 13 , 152	-		01210
Landform (hillslope, terrace, etc.):	-				,	ncave, convex, n		Concav		Slope (%)	): <5%
Subregion (LRR):			Lat:	-		Long:				Datum:	NAD83
Soil Map Unit Name:								ssification:		-	MC
Are climatic/hydrologic conditions	s on the site ty		1						arks.)		
Are Vegetation No , Soil N											No
Are Vegetation No , Soil N			-			(if needed, expla					
SUMMARY OF FINDINGS -						ations, trans	ects, imp	ortant fe	autro	es, etc.	
Hydrophytic Vegetation Present?		-	<u>x</u>			,	, ,				
Hydric Soil Present?		No			Is the Sa	ampled Area					
Wetland Hydrology Present?		No			within a	a Wetland?	Yes	No	X		
, , ,	<u> </u>										
Remarks:											
VEGETATION – Use scientif	ic names of	nlants									
	ie names of	Absolute %	Dominant	Indicat	tor						
Tree Stratum (Plot size: <u>30</u>	)	Cover	Species?	Status		Dominance	e Test Wor	ksheet:			
						Number of		•		2	( • )
1.						That Are O				2	(A)
			_ = Total Co	over		Total Num				4	(B)
Sapling/Shrub Stratum (Plot size	e: <u>15</u>	_)				Species Ac				4	(D)
_						Percent of		•		50.0%	(A/B)
1			= Total Co	ver		That Are O	BL, FACW,	or FAC:		50.070	
Herb Stratum (Plot size: 5	)					Prevalence	ndex Wo	orksheet:			
1. Phalaris arundinacea		30%	Y	FAC	W			, noneen	N 4 I +	:	
2. Cirsium arvense		20%	Y	FAC	U	Total % Co			Wult	iply by:	
3. Elymus repens		20%	Y	FAC	U	OBL specie	S	0%	x1_	0.0%	_
4. Sonchus arvensis		20%	Y	FA	С	FACW spec	cies	30%	x 2	60.0%	
5. Bromus inermis		10%	N	UP	L	FAC specie	S	20%	x 3	60.0%	
6.						FACU spec	ies	40%	x 4	160.0%	
		100%	= Total Co	over		UPL specie			x 5		_
Woody Vine Stratum (Plot size:	30)					•			-	50.0%	
						Column To	tals:	100.0%	(A)	330%	(B)
1			= Total Co	over		Prevaler	nce Index =	B/A =		3.30	_
% Bare Ground in Herb Stratum		-				Hydrophyt	ic Vegetat	ion Indicate	ors:		
							-	r Hydrophy		rotation	
									-	setation	
								est if >50%			
						3 - Pre	evalence In	dex is $\leq 3.0$			
								al Adaptation a seperate			porting data
						Proble	ematic Hyd	Irophytic Ve	egetati	on (Explai	in)
						Indicators of					ust be
						present, unl		ed or probl	ematio	2	
						Hydrophyt Vegetatior	า		Ne	v	
						Present?	Ŷ	es	No	X	
Remarks:											

SOIL

	Matrix			Redox Fea	atures		— <b>-</b> .	
(inches)	Color:	%	Color:	%	Type:	Loc:	Texture:	Remarks:
0-20	10YR 2/1	100%						
Type: C=Con	centration, D=Dep	letion, RM=F	educed Matr	ix, CS=Covered	or Coated San	d Grains	Locatio	n: PL=Pore Lining, M=Matrix
Hydric Soil Ir	dicators: (Applica	able to all LR	Rs, unless oth	erwise noted.)			Indicators for Problem	ematic Hydric Soils
Histoso	(A1)			Sandy Gleye	d Matrix (S4)		1 cm Muck (A9	)(LRR I, J)
Histic Ep	oipedon (A2)			Sandy Redox	x (S5)		Coast Prarie Re	dox (A16) <b>(LRR F, G, H)</b>
Black Hi	stic (A3)			Stripped Ma	trix (S6)		Dark Surface (S	7) <b>(LRR G)</b>
Hydroge	en Sulfide (A4)		_	Loamy Mucl	ky Mineral (F1	)	High Plains Dep	pressions (F16)
Stratifie	d Layers (A5) (LR	R F)	_	Loamy Gleye	ed Matrix (F2)		(LRR H outside	of MLRA 72 & 73)
1 cm M	uck (A9) <b>(LRR F, G,</b>	Н)	_	Depleted Ma	atrix (F3)		Reduced Vertic	(F18)
Deplete	d Below Dark Surf	ace (A11)	_	Redox Dark	Surface (F6)		Red Parent Ma	terial (TF2)
Thick Da	ark Surface (A12)		_	Depleted Da	ork Surface (F7	)	Very Shallow D	ark Surface (TF12)
Sandy N	luck Mineral (S1)		_	Redox Depre	essions (F8)		Other (Explain	in Remarks)
2.5 cm l	Mucky Peat or Pea	it (S2) <b>(LRR C</b>	ì, H)	High PLains	Depression (F:	16)	, ,	hytic vegetation and wetland
5 cm M	ucky Peat or Peat	(S3) <b>(LRR F)</b>		(MLRA 72 &	73 of LRR H)		hydrology must be p problematic.	present, unless disturbed or
	ayer (if present):							
Туре:							Hydric Soil Present?	Yes No X
							-	
Depth (ir Remarks:	nches):							
Remarks:								
Remarks:	6Y							
Remarks: HYDROLOG Wetland Hyg	GY Irology Indicators		2d: check all t	hat apply)			Secondary I	ndicators (2 or more required)
Remarks: HYDROLOG Wetland Hyd Primary India	SY Grology Indicators Sators (minimum o						·	ndicators (2 or more required) Soil Cracks (B6)
Remarks: HYDROLOG Wetland Hyd Primary India Surface V	<b>GY</b> Srology Indicators cators (minimum o Water (A1)		Sa	lt Crust (B11)	ates (B13)		Surface	Soil Cracks (B6)
Remarks: HYDROLOG Wetland Hyd Primary India Surface V	GY Irology Indicators Cators (minimum of Water (A1) ter Table (A2)		Sa Aq				Surface Sparsely	Soil Cracks (B6) y Vegetated Concave Surface (B8)
Remarks: HYDROLOG Wetland Hyd Primary India Surface V High Wa Saturatio	GY Irology Indicators Cators (minimum of Water (A1) ter Table (A2) on (A3)		Sa Aq Hy	lt Crust (B11) Juatic Invertebra Vdrogen Sulfide	Odor (C1)		Surface Sparsely Drainag	Soil Cracks (B6)
Remarks: HYDROLOC Wetland Hyd Primary Indio Surface V High Wa Saturatic Water M	GY Irology Indicators Cators (minimum of Water (A1) ter Table (A2)		Sa Aq Hy Dr	lt Crust (B11) Juatic Invertebra	Odor (C1) Table (C2)	ing Roots	Surface Sparsely Drainag Oxidized	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C
Remarks: HYDROLOG Wetland Hyd Primary Indio Surface V High Wa Saturatio Water M Sedimen	<b>GY</b> Irology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1)		Sa Aq Hy Dr Ox	lt Crust (B11) Juatic Invertebra Vdrogen Sulfide Y-Season Water	Odor (C1) r Table (C2) neres along Liv	ing Roots	C3)	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C
Remarks: HYDROLOC Wetland Hyo Primary Indio Surface V High Wa Saturatio Water M Sedimen Drift Dep	<b>GY</b> <b>Irology Indicators</b> cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2)		Sa Aq Pr Ox Ox Qw	lt Crust (B11) Juatic Invertebra Adrogen Sulfide y-Season Water Adized Rhizosph Arbere not tilled) esence of Reduc	Odor (C1) Table (C2) heres along Liv ced Iron (C4)	ing Roots	(C3) Surface Sparsely Drainag Oxidized (C3) Crayfish	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C tilled)
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep	GY Irology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5)	of one require	Sal Aq Hy Dr Ox Pre Th	It Crust (B11) Juatic Invertebra Vdrogen Sulfide y-Season Water Kidized Rhizosph Vhere not tilled) esence of Reductin Muck Surface	Odor (C1) Table (C2) heres along Liv ced Iron (C4) e (C7)	ing Roots	(C3) (	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2)
Remarks: HYDROLOG Wetland Hyo Primary Indio Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio	Frology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Aeria	of one require al Imagery (B	Sal Aq Hy Dr Ox Pre Th	lt Crust (B11) Juatic Invertebra Adrogen Sulfide y-Season Water Adized Rhizosph Arbere not tilled) esence of Reduc	Odor (C1) Table (C2) heres along Liv ced Iron (C4) e (C7)	ing Roots	(C3) Surface Sparsely Oxidized (C3) (where Saturati Geomo FAC-Ne	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5)
Remarks: HYDROLOG Wetland Hyo Primary Indio Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio	GY Irology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5)	of one require al Imagery (B	Sal Aq Hy Dr Ox Pre Th	It Crust (B11) Juatic Invertebra Vdrogen Sulfide y-Season Water Kidized Rhizosph Vhere not tilled) esence of Reductin Muck Surface	Odor (C1) Table (C2) heres along Liv ced Iron (C4) e (C7)	ing Roots	(C3) Surface Sparsely Oxidized (C3) (where Saturati Geomo FAC-Ne	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2)
Remarks: HYDROLOG Wetland Hyo Primary Indio Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio	GY Arology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria cained Leaves (B9)	of one require al Imagery (B	Sal Aq Hy Dr Ox Pre Th	It Crust (B11) Juatic Invertebra Vdrogen Sulfide y-Season Water Kidized Rhizosph Vhere not tilled) esence of Reductin Muck Surface	Odor (C1) Table (C2) heres along Liv ced Iron (C4) e (C7)	ing Roots	(C3) Surface Sparsely Oxidized (C3) (where Saturati Geomo FAC-Ne	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5)
Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Water-St	Frology Indicators ators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Aeria and Leaves (B9)	of one require al Imagery (B	Sal Aq Dr Ox Ox Th 7)Ot	It Crust (B11) Juatic Invertebra Vdrogen Sulfide y-Season Water Kidized Rhizosph Vhere not tilled) esence of Reductin Muck Surface	Odor (C1) Table (C2) heres along Liv ced Iron (C4) e (C7)	ing Roots	(C3) Surface Sparsely Oxidized (C3) (where Saturati Geomo FAC-Ne	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5)
Remarks: HYDROLOG Wetland Hyd Primary India Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Water-St Field Observ Surface Water	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria cained Leaves (B9) ations: er Present? Ye	of one require al Imagery (B	Sai Aq Hy Or Ox Th 7)Ot Th Th	It Crust (B11) juatic Invertebra vdrogen Sulfide y-Season Water kidized Rhizosph <b>there not tilled)</b> esence of Reduc in Muck Surface ther (Explain in F	Odor (C1) Table (C2) heres along Liv ced Iron (C4) e (C7)		(C3) (	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5) eave Hummocks (D7) (LRR F)
Remarks: HYDROLOG Wetland Hyo Primary India Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatia Water-St Field Observ Surface Water Saturation Pi	GY Arology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Aeria cained Leaves (B9) ations: er Present? Ye Present? Ye	of one require al Imagery (B	Sai Aq Dr Ox Ox Th 7)Ot Ot De XDe	It Crust (B11) Juatic Invertebra Varogen Sulfide Y-Season Water Kidized Rhizosph Vhere not tilled) esence of Reduc in Muck Surface ther (Explain in F	Odor (C1) Table (C2) heres along Liv ced Iron (C4) e (C7)		(C3) Surface Sparsely Oxidized (C3) (where Saturati Geomo FAC-Ne	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5) eave Hummocks (D7) (LRR F)
Remarks: HYDROLOG Wetland Hyd Primary India Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Drift Dep Inundatii Water-St Field Observ Surface Water Surface Water Saturation Pr (includes cap	GY Arology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Aeria cained Leaves (B9) ations: er Present? Ye Present? Ye	al Imagery (B es No es No es No es No	Sai Aq Hy Ox (w Pre Th 7) Ot	It Crust (B11) juatic Invertebra vdrogen Sulfide y-Season Water kidized Rhizosph <b>there not tilled)</b> esence of Reduc in Muck Surface ther (Explain in F epth (inches): epth (inches):	Odor (C1) Table (C2) heres along Liv ced Iron (C4) e (C7) Remarks)	Wetland	Crayfish Geomo Gamma Crayfish Crayfish Crayfish Crayfish Crayfish FAC-Ne Frost-Hi Crost-Hi	Soil Cracks (B6) y Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots (C tilled) n Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5) eave Hummocks (D7) (LRR F)

Project/Site: Parshall Transload	d Facility	City/Cou	inty:	Makoti/ Ward	Sampl	ing Date:	8/27/2015
Applicant/Owner:	Barr Engineerin			State: North	Sampl	ing Point:	DP24W
	man & M Keller	0	Section, 1	ownship, Range:		2N, 88W	
Landform (hillslope, terrace, etc.):	depression		Local relief (c	oncave, convex, none):	Conca		e (%): <5%
Subregion (LRR): LRR-F	·	Lat:	47.981732	Long: -1	01.876397	Datur	n: NAD83
Soil Map Unit Name:	C272A-Ham	erly-Tonka d	complex	NWI	classification:		PEMAd
Are climatic/hydrologic conditions on the si	te typical for this	time of year	? Yes X	No(if no,	explain in Rer	narks.)	
Are Vegetation <u>No</u> , Soil <u>No</u> , or H		-				?Yes X	(No
Are Vegetation <u>No</u> , Soil <u>No</u> , or H				(if needed, explain in Re	-		
SUMMARY OF FINDINGS – Attach s	site map show	ing samp	ling point lo	cations, transects, i	mportant f	eautres, et	tc.
Hydrophytic Vegetation Present? Y	es X No						
Hydric Soil Present? Y	es <u>X</u> No			Sampled Area	es X N	0	
Wetland Hydrology Present? Ye	es <u>X</u> No		withir	a Wetland? Y		·	
Remarks:							
Fallow ag field							
VEGETATION – Use scientific name	es of plants						
Tree Charters (Distring 20	Absolute %	Dominant	Indicator	Dominance Test V	Vorksheet:		
Tree Stratum (Plot size: <u>30</u> )	Cover	Species?	Status	Number of Domin	ant Species		
				That Are OBL, FAC	•	1	(A)
1		= Total Cov		Total Number of D			
Sapling/Shrub Stratum (Plot size: 15				Species Across All		1	(B)
				Percent of Domina	ant Species		
1			<u> </u>	That Are OBL, FAC	W, or FAC:	100.0%	6 (A/B)
Herb Stratum (Plot size: <u>5</u> )		= Total Cov	ver				
1. Phalaris arundinacea	70%	Y	FACW	Prevalence Index	Worksheet:		
2. Cirsium arvense	10%	N	FACU	Total % Cover of:		Multiply by	y:
3. Typha latifolia	10%	N	OBL	OBL species	15%	x 1 15.	0%
4. Sonchus arvensis	5%	N	FAC	FACW species	70%	x 2 140	.0%
5. Rumex occidentalis	5%	N	OBL	FAC species	5%	x 3 15.	
6	100%	= Total Cov	ver	FACU species	10%	x 4 40.	
Woody Vine Stratum (Plot size: <u>30</u>	)			UPL species	0%	x 5 0.0	0%
				Column Totals:	100.0%	(A) 210	0% (B)
1		= Total Cov		Prevalence Inde	ex = B/A =	2.10	
% Bare Ground in Herb Stratum				Hydrophytic Vege	tation Indica	tors:	
				1 - Rapid Tes			n
				Y 2 - Dominand			
				Y 3 - Prevalenc			
				4 - Morpholo in Remarks o			supporting data
				Problematic	Hydrophytic V	egetation (Ex	xplain)
				Indicators of hydric			y must be
				present, unless dist	urbed or prob	lematic	
				Hydrophytic Vegetation	Yes X	No	
				Present?	.c. <u> </u>		
Remarks:							

~	0		
~	( )	I	
J	J		-

Depth	Matrix			Redox F	eatures			
(inches)	Color:	%	Color:	%	Type:	Loc:	Texture:	Remarks:
0-10	10YR 2/1	95%	5YR 3/	3 5%	С	PL	Silt Loam	
10-20	10YR 5/2	80%	5YR 4/	6 20%	S C	М	Silty Clay	
Type: C=Cor	centration, D=Dep	letion, RM=R	educed Mat	rix, CS=Covere	d or Coated San	d Grains	Locatio	on: PL=Pore Lining, M=Matrix
Hydric Soil I	ndicators: (Applica	able to all LRR	Rs, unless ot	herwise noted	.)		Indicators for Prob	lematic Hydric Soils
Histoso	l (A1)			Sandy Gle	yed Matrix (S4)		1 cm Muck (A	9) <b>(LRR I, J)</b>
Histic E	pipedon (A2)		_	Sandy Red			Coast Prarie R	edox (A16) <b>(LRR F, G, H)</b>
Black H	istic (A3)		_	Stripped N	Aatrix (S6)		Dark Surface (	S7) <b>(LRR G)</b>
Hydrog	en Sulfide (A4)		_	Loamy Mu	icky Mineral (F1	)	High Plains De	pressions (F16)
Stratifie	ed Layers (A5) (LR	R F)		Loamy Gle	yed Matrix (F2)		(LRR H outsid	e of MLRA 72 & 73)
1 cm M	uck (A9) <b>(LRR F, G,</b>	Н)		Depleted I	Matrix (F3)		Reduced Vert	ic (F18)
Deplete	ed Below Dark Sur	ace (A11)		Redox Dar	k Surface (F6)		Red Parent M	aterial (TF2)
Thick D	ark Surface (A12)			Depleted I	Dark Surface (F7	)	Very Shallow	Dark Surface (TF12)
Sandy N	Muck Mineral (S1)			X Redox Dep	pressions (F8)		Other (Explain	i in Remarks)
	Mucky Peat or Pea		<i>,</i> H) _	High PLain	s Depression (F:	16)		phytic vegetation and wetland
5 cm M	ucky Peat or Peat	(S3) <b>(LRR F)</b>		(MLRA 72	& 73 of LRR H)		hydrology must be problematic.	present, unless disturbed or
Depth (i Remarks:	nches):						Hydric Soil Present	? Yes <u>X</u> No
Remarks:							Hydric Soil Present	? Yes <u>X</u> No
Remarks: <b>HYDROLO</b>							Hydric Soil Present	? Yes <u>X</u> No
Remarks: HYDROLO Wetland Hy	GY		ed; check all	that apply)				? Yes <u>X</u> No Indicators (2 or more required)
Remarks: HYDROLOO Wetland Hy Primary Indi Surface	<b>GY</b> drology Indicators cators (minimum o Water (A1)		Sa	alt Crust (B11)			Secondary Surfac	Indicators (2 or more required) e Soil Cracks (B6)
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa	<b>GY</b> drology Indicators cators (minimum o Water (A1) iter Table (A2)		Sa A	alt Crust (B11) quatic Inverte			Secondary Surfac Sparse	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8)
Remarks: IYDROLO Wetland Hy Primary Indi Surface High Wa Saturati	<b>GY</b> drology Indicators cators (minimum o Water (A1) uter Table (A2) on (A3)		Sa A H	alt Crust (B11) quatic Invertel ydrogen Sulfid	e Odor (C1)		Secondary Surfac Sparse Draina	Indicators (2 or more required) e Soil Cracks (B6) Iy Vegetated Concave Surface (B8) ge Patterns (B10)
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N	<b>GY</b> drology Indicators cators (minimum o Water (A1) iter Table (A2) on (A3) 1arks (B1)		Sa A H D	alt Crust (B11) quatic Invertel ydrogen Sulfid ry-Season Wat	e Odor (C1) er Table (C2)		Secondary Surfac Sparse Draina Oxidize	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer	<b>GY</b> drology Indicators cators (minimum o Water (A1) iter Table (A2) on (A3) 1arks (B1) it Deposits (B2)		Sa A H D O	alt Crust (B11) quatic Invertel ydrogen Sulfid ry-Season Wat xidized Rhizos	e Odor (C1) er Table (C2) pheres along Liv	ing Roots (	Secondary Surfac Sparse Draina Oxidize (C3) (where	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C <b>e tilled)</b>
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift De	<b>GY</b> drology Indicators cators (minimum of Water (A1) iter Table (A2) on (A3) farks (B1) it Deposits (B2) posits (B3)		Sa A H D O (v	alt Crust (B11) quatic Invertel ydrogen Sulfid ry-Season Wat xidized Rhizos <b>vhere not tille</b>	e Odor (C1) er Table (C2) oheres along Liv <b>d)</b>	ing Roots (	Secondary Surfac Sparse Draina Oxidize (C3) (where Crayfis	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C e <b>tilled)</b> ih Burrows (C8)
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimer Drift De Algal Ma	GY drology Indicators cators (minimum of Water (A1) iter Table (A2) on (A3) 1arks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		Sa A D O O O	alt Crust (B11) quatic Invertel ydrogen Sulfid ry-Season Wat xidized Rhizos <b>vhere not tille</b> resence of Red	e Odor (C1) er Table (C2) oheres along Liv <b>d)</b> uced Iron (C4)	ing Roots (	Secondary Surfac Sparse Draina Oxidize (C3) (where Crayfis X Satura	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C <b>e tilled)</b> h Burrows (C8) tion Visible on Aerial Imagery (C9)
Remarks: IYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Dep	GY drology Indicators cators (minimum of Water (A1) Iter Table (A2) on (A3) Marks (B1) It Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	of one require	Sa A H D O (V PI	alt Crust (B11) quatic Invertel ydrogen Sulfid ry-Season Wat xidized Rhizos <b>vhere not tille</b> resence of Red nin Muck Surfa	e Odor (C1) er Table (C2) oheres along Liv <b>d)</b> uced Iron (C4) ce (C7)	ing Roots (	Secondary Surfac Sparse Draina Oxidiz (C3) (wher Crayfis X Satura X Geom	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C e tilled) th Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2)
Remarks: IYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Dep X Inundati	GY drology Indicators cators (minimum of Water (A1) iter Table (A2) on (A3) farks (B1) it Deposits (B2) posits (B3) at or Crust (B4)	of one require	Sa A H D O (V PI	alt Crust (B11) quatic Invertel ydrogen Sulfid ry-Season Wat xidized Rhizos <b>vhere not tille</b> resence of Red	e Odor (C1) er Table (C2) oheres along Liv <b>d)</b> uced Iron (C4) ce (C7)	ing Roots (	Secondary Surfac Sparse Draina Oxidiz (C3) (wher Crayfis X Satura X Geome FAC-N	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C <b>e tilled)</b> h Burrows (C8) tion Visible on Aerial Imagery (C9)
Remarks: <b>IYDROLOO</b> Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Dep X Inundati Water-S	<b>GY</b> drology Indicators cators (minimum of Water (A1) Iter Table (A2) on (A3) Marks (B1) It Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9)	of one require	Sa A H D O (V PI	alt Crust (B11) quatic Invertel ydrogen Sulfid ry-Season Wat xidized Rhizos <b>vhere not tille</b> resence of Red nin Muck Surfa	e Odor (C1) er Table (C2) oheres along Liv <b>d)</b> uced Iron (C4) ce (C7)	ing Roots (	Secondary Surfac Sparse Draina Oxidiz (C3) (wher Crayfis X Satura X Geome FAC-N	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C e tilled) ih Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) eutral Test (D5)
Remarks: IYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Dep X Inundati Water-S Field Observ	GY drology Indicators cators (minimum of Water (A1) Iter Table (A2) on (A3) Marks (B1) Marks (B1) Marks (B1) Marks (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9) vations:	of one require	Sa A H D O (v Pi TI 7)O	alt Crust (B11) quatic Invertel ydrogen Sulfid ry-Season Wat xidized Rhizos <b>vhere not tille</b> resence of Red nin Muck Surfa	e Odor (C1) er Table (C2) oheres along Liv <b>d)</b> uced Iron (C4) ce (C7)	ing Roots (	Secondary Surfac Sparse Draina Oxidiz (C3) (wher Crayfis X Satura X Geome FAC-N	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C e tilled) ih Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) eutral Test (D5)
Remarks: <b>IYDROLOO</b> Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Deg X Inundati	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9) vations: er Present? Ye	of one require	Sa A H D O (v Pi T I 7) O X D	alt Crust (B11) quatic Inverteb ydrogen Sulfid ry-Season Wat xidized Rhizos <b>vhere not tille</b> resence of Red hin Muck Surfa ther (Explain in	e Odor (C1) er Table (C2) oheres along Liv <b>d)</b> uced Iron (C4) ce (C7)		Secondary Surfac Sparse Draina Oxidize (C3) (where Crayfis X Satura X Geome FAC-N Frost-H	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C <b>e tilled)</b> th Burrows (C8) tion Visible on Aerial Imagery (C9) prphic Position (D2) eutral Test (D5) Heave Hummocks (D7) <b>(LRR F)</b>
Remarks: HYDROLOO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedimer Drift De Algal Ma Iron Dep X Inundati Water-S Field Observ Surface Wat Water Table Saturation P	GY drology Indicators cators (minimum of Water (A1) Iter Table (A2) on (A3) Marks (B1) It Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9) vations: er Present? Ye	of one require al Imagery (B7 es No	Sa A H D O O V V TI 7) O X D X D	alt Crust (B11) quatic Invertel ydrogen Sulfid ry-Season Wat xidized Rhizos <b>vhere not tille</b> resence of Red hin Muck Surfa ther (Explain in epth (inches):	e Odor (C1) er Table (C2) oheres along Liv <b>d)</b> uced Iron (C4) ce (C7)		Secondary Surfac Sparse Draina Oxidiz (C3) (wher Crayfis X Satura X Geome FAC-N	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C <b>e tilled)</b> th Burrows (C8) tion Visible on Aerial Imagery (C9) prphic Position (D2) eutral Test (D5) Heave Hummocks (D7) <b>(LRR F)</b>
Remarks: IYDROLOO Wetland Hy Primary Indi Surface High Wa Saturation Water N Sedimer Drift Deg Algal Ma Iron Deg X Inundati Water-S Field Observ Surface Water Surface Water Saturation P (includes cap	GY drology Indicators cators (minimum of Water (A1) Iter Table (A2) on (A3) Marks (B1) It Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9) vations: er Present? Ye present? Ye	al Imagery (B7 es No es No es No es No	Sa A D O O TI TI TI T T D D D D	alt Crust (B11) quatic Invertel ydrogen Sulfid ry-Season Wat xidized Rhizos <b>vhere not tille</b> resence of Red nin Muck Surfa ther (Explain in epth (inches): epth (inches):	e Odor (C1) er Table (C2) oheres along Liv d) uced Iron (C4) ce (C7) n Remarks)	Wetland	Secondary Surfac Sparse Draina Oxidize (C3) (where X Satura X Geome FAC-N Frost-H	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (C <b>e tilled)</b> th Burrows (C8) tion Visible on Aerial Imagery (C9) prphic Position (D2) eutral Test (D5) Heave Hummocks (D7) <b>(LRR F)</b>

Project/Site: Parshall	Transload Fac	ility	City/Cou	unty:		Makoti/ War	ď	Samp	ling Dat	te: 8	/27/2015
Applicant/Owner:		, Barr Engineer		-			North	Samp	ing Poi		DP25U
Investigator(s):	A Stegeman			Se	ction, Tov	nship, Range:		13,15	2N, 88\	N	
Landform (hillslope, terrace, etc.):		depression		Local r	elief (con	ave, convex, i	none):	Conca	ve	Slope (%)	: <5%
Subregion (LRR):	LRR-F		Lat:	47.9	81880	Long:	-101	l.876821		Datum:	NAD83
Soil Map Unit Name:		C272A-Ham					NWI cla	ssification		PEN	/IAd
Are climatic/hydrologic conditions									-		
Are Vegetation <u>No</u> , Soil <u>N</u>									? Yes	Х	No
Are Vegetation <u>No</u> , Soil <u>N</u>						f needed, expl					
SUMMARY OF FINDINGS –	Attach site	map show	ing samp	ling p	oint loca	tions, trans	sects, im	portant f	eautr	es, etc.	
Hydrophytic Vegetation Present?	Yes	No	Χ								
Hydric Soil Present?	Yes	X No				npled Area	Voc	N	0 X	,	
Wetland Hydrology Present?	Yes	No	Х		within a	Wetland?	103	'`	<u> </u>	<u> </u>	
Remarks:											
VEGETATION – Use scientifi	c names of	plants									
		Absolute %	Dominant	Indica		Dominan	ce Test Wo	rksheet:			
Tree Stratum (Plot size: <u>30</u>	)	Cover	Species?	Statu	S		of Dominan				
							Dominan DBL, FACW	•		1	(A)
1			= Total Co				nber of Doi				
Sapling/Shrub Stratum (Plot size	: 15			vei			cross All St			3	(B)
						Percent o	f Dominan	t Species			
1						That Are (	OBL, FACW	, or FAC:		33.3%	(A/B)
Herb Stratum (Plot size: <u>5</u>	)		= Total Co	ver		Ducualana					
1. Cirsium arvense	/	50%	Y	FA	CU		e Index W	orksneet:			
2. Bromus inermis		25%	Y	U	PL	Total % Co	over of:		Mult	tiply by:	
3. Sonchus arvensis		25%	Y	FA	AC	OBL speci	es	0%	x 1	0.0%	
4						FACW spe	cies	0%	x 2	0.0%	
		100%	= Total Co	ver		FAC speci	es	25%	x 3	75.0%	
Woody Vine Stratum (Plot size:	30)					FACU spe	cies	50%	x 4	200.0%	
						UPL speci	 es	25%	x 5	125.0%	_
1			= Total Co	ver		Column T		100.0%	(A)	400%	(B)
% Bare Ground in Herb Stratum		-						-	(~)		(0)
						Prevale	nce Index	= B/A =		4.00	_
						Hydrophy	tic Vegeta	tion Indica	tors:		
						1 - Ra	apid Test fo	or Hydroph	ytic Ve	getation	
						2 - D	ominance <sup>-</sup>	۲est if >50%	6		
								ndex is ≤ 3.			
						4 - N	Iorphologic	al Adaptat	ions (P		porting data
								n a seperat drophytic \			n)
						Indicators of					ist be
						present, un Hydrophy		bed or prot	iemati	L	
						Vegetatio Present?	n y	/es	No	<u>x</u>	
Remarks:											

~	^		
~	"	I	
_	J		-

Depth	Matrix			Redox Feat	ures							
(inches)	Color:	%	Color:	%	Type:	Loc:	Texture:	Remarks:				
0-20	10YR 5/2	90%	10YR 5/4	10%	С	М	Clay Loam					
0-10	10YR 2/1	100%					Loam					
	centration, D=Dep				Coated Sand	Grains		: PL=Pore Lining, M=Matrix				
	ndicators: (Applica	able to all LRR	s, unless othe	rwise noted.)			Indicators for Proble	matic Hydric Soils				
Histoso				_Sandy Gleyed			1 cm Muck (A9)					
	oipedon (A2)			Sandy Redox				lox (A16) <b>(LRR F, G, H)</b>				
	istic (A3)			Stripped Matr			Dark Surface (S7					
	en Sulfide (A4)			Loamy Mucky			High Plains Depr					
	d Layers (A5) (LR			Loamy Gleyed				of MLRA 72 & 73)				
	uck (A9) <b>(LRR F, G,</b>			_Depleted Mat			Reduced Vertic					
	d Below Dark Surf	ace (A11)		Redox Dark Su			Red Parent Mate					
	ark Surface (A12)			Depleted Darl				rk Surface (TF12)				
	Nuck Mineral (S1)			Redox Depres			Other (Explain ir	-				
	Mucky Peat or Pea		, H)	_High PLains D		6)		ytic vegetation and wetland				
5 cm M	ucky Peat or Peat	(S3) <b>(LRR F)</b>		(MLRA 72 & 7	3 of LRR H)		hydrology must be present, unless disturbed or problematic.					
Restrictive L	ayer (if present):						<b></b>					
Type:												
Type.							Liveria Cail Dragant?	Vec V Ne				
Depth (ii Remarks:	nches):						Hydric Soil Present?	Yes <u>X</u> No				
Depth (ii Remarks:							Hydric Soil Present?	Yes <u>X</u> No				
Depth (ii Remarks: HYDROLOC	 5Y						Hydric Soil Present?	Yes <u>X</u> No				
Depth (ii Remarks: HYDROLOC Wetland Hyd	GY drology Indicators		d; check all that	at apply)				Yes X No				
Depth (ii Remarks: HYDROLOO Wetland Hyo Primary Indio	 5Y						Secondary In	dicators (2 or more required)				
Depth (ii Remarks: HYDROLOC Wetland Hyd Primary India Surface	GY drology Indicators cators (minimum o		Salt	Crust (B11)	es (B13)		Secondary In Surface S					
Depth (ii Remarks: HYDROLOC Wetland Hyd Primary India Surface	<b>GY</b> drology Indicators cators (minimum o Water (A1) ter Table (A2)		Salt Aqu				Secondary In Surface S Sparsely	dicators (2 or more required) Soil Cracks (B6)				
Depth (ii Remarks: HYDROLOC Wetland Hyo Primary India Surface V High Wa Saturatio	<b>GY</b> drology Indicators cators (minimum o Water (A1) ter Table (A2)		Salt Aqu Hyd	Crust (B11) atic Invertebrat	dor (C1)		Secondary In Surface S Sparsely Drainage	dicators (2 or more required) ioil Cracks (B6) Vegetated Concave Surface (B8)				
Depth (ii Remarks: HYDROLOC Wetland Hyd Primary India Surface V High Wa Saturatio Water M	<b>GY</b> drology Indicators cators (minimum o Water (A1) ter Table (A2) on (A3)		Salt Aqu Hyd Dry-	Crust (B11) atic Invertebrat rogen Sulfide O	dor (C1) able (C2)	ng Roots (	Secondary In Surface S Drainage Oxidized	dicators (2 or more required) ioil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C				
Depth (ii Remarks: HYDROLOC Wetland Hyd Primary India Surface V High Wa Saturatio Water M Sedimen Drift Dep	<b>GY</b> drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3)		Salt Aqu Hyd Dry- Oxic <b>(wh</b>	Crust (B11) atic Invertebrat rogen Sulfide O Season Water T lized Rhizosphe <b>ere not tilled)</b>	dor (C1) Table (C2) res along Livir	ng Roots (	Secondary In Surface S Sparsely Drainage Oxidized C3) (where t Crayfish	dicators (2 or more required) ioil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C <b>illed)</b> Burrows (C8)				
Depth (ii Remarks: HYDROLOC Wetland Hyd Primary India Surface V High Wa Saturatia Water M Sedimen Drift Dep Algal Ma	<b>GY</b> drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4)		Salt Aqu Hyd Dry- Oxic <b>(wh</b> Pres	Crust (B11) atic Invertebrat rogen Sulfide O Season Water T lized Rhizosphe <b>ere not tilled)</b> ence of Reduce	dor (C1) Table (C2) res along Livir d Iron (C4)	ng Roots (	Secondary In Surface S Sparsely Drainage C3) (where t Saturatic	dicators (2 or more required) Goil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C <b>illed)</b> Burrows (C8) In Visible on Aerial Imagery (C9)				
Depth (ii Remarks: HYDROLOO Wetland Hyo Primary India Surface V High Wa Saturatia Water N Sedimen Drift Dep Algal Ma Iron Dep	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4) posits (B5)	of one require	Salt Aqu Hyd Dry- Oxic <b>(wh</b> Pres Thir	Crust (B11) atic Invertebrat rogen Sulfide O Season Water T lized Rhizosphe ere not tilled) eence of Reduce Muck Surface (	dor (C1) Table (C2) res along Livir d Iron (C4) C7)	ng Roots (	Secondary In Surface S Sparsely Drainage Oxidized C3) (where t Crayfish Saturatic Geomor	dicators (2 or more required) soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C <b>illed)</b> Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)				
Depth (ii Remarks: HYDROLOC Wetland Hyu Primary India Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) oosits (B3) it or Crust (B4) oosits (B5) on Visible on Aeria	of one require	Salt Aqu Hyd Dry- Oxic <b>(wh</b> Pres Thir	Crust (B11) atic Invertebrat rogen Sulfide O Season Water T lized Rhizosphe <b>ere not tilled)</b> ence of Reduce	dor (C1) Table (C2) res along Livir d Iron (C4) C7)	ng Roots (	Secondary In Surface S Sparsely Drainage Oxidized C3) (where t Crayfish Saturatic Geomory FAC-Neu	dicators (2 or more required) soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C <b>illed)</b> Burrows (C8) In Visible on Aerial Imagery (C9) phic Position (D2) tral Test (D5)				
Depth (ii Remarks: HYDROLOC Wetland Hyu Primary India Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4) posits (B5)	of one require	Salt Aqu Hyd Dry- Oxic <b>(wh</b> Pres Thir	Crust (B11) atic Invertebrat rogen Sulfide O Season Water T lized Rhizosphe ere not tilled) eence of Reduce Muck Surface (	dor (C1) Table (C2) res along Livir d Iron (C4) C7)	ng Roots (	Secondary In Surface S Sparsely Drainage Oxidized C3) (where t Crayfish Saturatic Geomory FAC-Neu	dicators (2 or more required) soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C <b>illed)</b> Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)				
Depth (ii Remarks: HYDROLOC Wetland Hyu Primary India Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati	<b>GY</b> drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Aeria tained Leaves (B9)	of one require	Salt Aqu Hyd Dry- Oxic <b>(wh</b> Pres Thir	Crust (B11) atic Invertebrat rogen Sulfide O Season Water T lized Rhizosphe ere not tilled) eence of Reduce Muck Surface (	dor (C1) Table (C2) res along Livir d Iron (C4) C7)	ng Roots (	Secondary In Surface S Sparsely Drainage Oxidized C3) (where t Crayfish Saturatic Geomory FAC-Neu	dicators (2 or more required) soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C <b>illed)</b> Burrows (C8) ın Visible on Aerial Imagery (C9) phic Position (D2) tral Test (D5)				
Depth (ii Remarks: HYDROLOC Wetland Hyd Primary India Surface V High Wa Saturatia Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Water-S	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on Aeria tained Leaves (B9) ations:	of one require	Salt Aqu Hyd Dry- Oxic <b>(wh</b> Pres Thir ) Oth	Crust (B11) atic Invertebrat rogen Sulfide O Season Water T lized Rhizosphe ere not tilled) eence of Reduce Muck Surface (	dor (C1) Table (C2) res along Livir d Iron (C4) C7)	ng Roots (	Secondary In Surface S Sparsely Drainage Oxidized C3) (where t Crayfish Saturatic Geomory FAC-Neu	dicators (2 or more required) soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C <b>illed)</b> Burrows (C8) ın Visible on Aerial Imagery (C9) phic Position (D2) tral Test (D5)				
Depth (ii Remarks: HYDROLOO Wetland Hyu Primary India Surface V High Wa Saturatio Water N Sedimen Drift Dep Algal Ma Iron Dep Inundati Water-S Field Observ	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4) oosits (B5) on Visible on Aeria tained Leaves (B9) ations: er Present? Ye	of one require	Salt Aqu Hyd Oxic Oxic Oxic Thir Oth Oth	Crust (B11) atic Invertebrat rogen Sulfide O Season Water T lized Rhizosphe <b>ere not tilled)</b> ence of Reduce Muck Surface ( er (Explain in Re	dor (C1) Table (C2) res along Livir d Iron (C4) C7)		Secondary In Surface S Sparsely Drainage Oxidized C3) (where t Crayfish Saturatic Geomory FAC-Neu	dicators (2 or more required) soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C <b>illed)</b> Burrows (C8) ın Visible on Aerial Imagery (C9) phic Position (D2) tral Test (D5)				
Depth (ii Remarks: HYDROLOO Wetland Hyu Primary India Surface V High Wa Saturatio Water N Sedimen Drift Dep Algal Ma Iron Dep Inundati Water-S Field Observ Surface Wate Saturation P	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on Aeria tained Leaves (B9) ations: er Present? Ye Present? Ye	of one required al Imagery (B7 es No	Salt Aqu Hyd Oxic Oxic Oxic Oxic Thir Oth Oth Dep XDep	Crust (B11) atic Invertebrat rogen Sulfide O Season Water T lized Rhizosphe <b>ere not tilled)</b> ence of Reduce Muck Surface ( er (Explain in Re th (inches):	dor (C1) Table (C2) res along Livir d Iron (C4) C7)		Secondary In Surface S Sparsely Drainage Oxidized C3) (where t Crayfish Saturatic Geomory FAC-Neu Frost-He	dicators (2 or more required) soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C <b>illed)</b> Burrows (C8) on Visible on Aerial Imagery (C9) ohic Position (D2) tral Test (D5) ave Hummocks (D7) <b>(LRR F)</b>				
Depth (ii Remarks: HYDROLOC Wetland Hyd Primary India Surface V High Wa Saturatio Water N Sedimen Drift Dep Algal Ma Iron Dep Inundati Water-S Field Observ Surface Wate Saturation P (includes cap	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on Aeria tained Leaves (B9) ations: er Present? Ye Present? Ye	al Imagery (B7 es No es No es No	Salt Aqu Hyd Oxic Oxic Thir 	Crust (B11) atic Invertebrat rogen Sulfide O Season Water T lized Rhizosphe ere not tilled) ence of Reduce Muck Surface ( er (Explain in Re th (inches): th (inches):	dor (C1) Table (C2) res along Livir d Iron (C4) C7) marks)	Wetland	Secondary In Surface S Sparsely Drainage Oxidized C3) (where t Crayfish Saturatic Geomory FAC-Neu Frost-He Hydrology Present?	dicators (2 or more required) soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C <b>illed)</b> Burrows (C8) on Visible on Aerial Imagery (C9) ohic Position (D2) tral Test (D5) ave Hummocks (D7) <b>(LRR F)</b>				

	Parshall Trans				unty:				oling Date oling Poin		/27/2015
Applicant/Owner: Investigator(s):	۸ ۲+		r Engineerir & M Keller	Ig	Section		Nort o, Range:		52N, 88W		DP26W
Landform (hillslope, ter		-	depression				convex, none			Slope (%)	: <5%
Subregion (LRR):			ucpression					-101.876031		Datum:	NAD83
Soil Map Unit Name:	En		C272A-Ham					WI classification		PEN	
Are climatic/hydrologic	conditions on th										
Are Vegetation No										х	No
Are Vegetation No							ded, explain in				
SUMMARY OF FINE									feautre	s. etc.	
Hydrophytic Vegetation		Yes	-				-,	,		-,	
Hydric Soil Present?		Yes			ls t	he Sample	d Area				
						thin a Wetl		Yes X	No		
Wetland Hydrology Pre	esent?	Yes	X No	<u> </u>							
Remarks:											
VEGETATION – Use	scientific na	mes of	nlants								
			Absolute %	Dominant	Indicator						
Tree Stratum (Plot size	e: <u>30</u> )		Cover	Species?	Status			st Worksheet:			
								minant Species		1	(A)
1								ACW, or FAC:		1	(A)
				_ = Total Co	ver		otal Number			1	(B)
Sapling/Shrub Stratum	(Plot size: <u>15</u>	)					pecies Across				(0)
1								hinant Species ACW, or FAC:	10	0.0%	(A/B)
1				= Total Co	ver	_   '	nat Are Obl, i	ACW, OF FAC.			(,,,=)
Herb Stratum (Plot size	e: <u>5</u> )					F	Prevalence Ind	ex Worksheet:			
1. Phalaris arundinacea			55%	Y	FACW		otal % Cover		Multip	alv by:	
2. Spartina pectinata			15%	Ν	FACW						
3. Beckmannia syzigach	ne		10%	Ν	OBL	_ (	OBL species	30%	x 1	30.0%	
4. Typha latifolia			10%	Ν	OBL	F	ACW species	70%	x 2	140.0%	
5. Persicaria amphibia			5%	Ν	OBL	F	AC species	0%	x 3	0.0%	
6. Sparganium america	num		5%	Ν	OBL	F	ACU species	0%	x 4	0.0%	
7						_ I	JPL species	0%	x 5	0.0%	
March March Charles	(0)	,	100%	= Total Co	ver		•				(P)
Woody Vine Stratum	(Plot size: <u>30</u>	)					Column Totals:		(A)	170%	(B)
							Prevalence I	ndex = B/A =	1	70	
1				= Total Co	ver	- +	lydrophytic V	egetation Indic	ators:		
% Bare Ground in Herb St	ratum						1 - Rapid T	Fest for Hydrop	hvtic Vege	etation	
								ance Test if >50			
						-					
						-		ence Index is ≤ 3			
						-		ological Adapta s or on a sepera	•		porting data
							Problema	tic Hydrophytic	Vegetatic	on (Explai	n)
						Inc	licators of hyp	lric soil and wet	land hydr		ist ha
								listurbed or pro	•	ology Ind	ist be
						١	lydrophytic /egetation Present?	Yes X	No		
							. cocinci				
Remarks:											

Sampling Point: SOIL Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators Depth Matrix **Redox Features** (inches) **Texture: Remarks:** Color: % % Color: Type: Loc: 10YR 2/1 95% С ΡL Clay Loam 0-20 10YR 3/6 5% Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils Sandy Gleyed Matrix (S4) 1 cm Muck (A9)(LRR I, J) Histosol (A1) Sandy Redox (S5) Coast Prarie Redox (A16) (LRR F, G, H) Histic Epipedon (A2) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Hvdrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) (LRR H outside of MLRA 72 & 73) 1 cm Muck (A9)(LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Red Parent Material (TF2) Thick Dark Surface (A12) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Sandy Muck Mineral (S1) X Redox Depressions (F8) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High PLains Depression (F16) hydrology must be present, unless disturbed or 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) problematic. **Restrictive Layer (if present):** Type: Hydric Soil Present? Yes X No Depth (inches): Remarks: **HYDROLOGY** Wetland Hydrology Indicators Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Surface Soil Cracks (B6) Salt Crust (B11) High Water Table (A2) Sparsely Vegetated Concave Surface (B8) Aquatic Invertebrates (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Cravfish Burrows (C8) Х Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) X Geomorphic Position (D2) Iron Deposits (B5) X Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) **Field Observations:** Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No Х Depth (inches): Wetland Hydrology Present? Yes X No No X Saturation Present? Yes Depth (inches): (includes capillary fringe) Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available: Remarks:

DP26W

Project/Site: Parshall Transload Fac	cility	City/Cou	inty:		Makoti/ Ward		Sampli	ng Dat	e: 8	/27/2015
	, arr Engineerin				State: N		 Sampli	ng Poi		DP27U
Investigator(s): A Stegeman	& M Keller				wnship, Range:		13 , 152	N, 88V	v	
	depression				ncave, convex, no				Slope (%)	): <5%
Subregion (LRR): LRR-F					Long:				Datum:	
Soil Map Unit Name:	C272A-Ham					NWI classi				ЛAd
Are climatic/hydrologic conditions on the site ty										
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro								Yes	<u> </u>	No
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro					(if needed, explai				+-	
SUMMARY OF FINDINGS – Attach site			ling p		cations, transe	ects, impo	rtant fe	autro	es, etc.	
	No			ls tha S	ampled Area					
	No				a Wetland?	Yes	No	x		
Wetland Hydrology Present? Yes	No	<u> </u>							-	
Remarks:										
VEGETATION – Use scientific names of	-									
<u>Tree Stratum</u> (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indic Statu	cator	Dominance	Test Works	heet:			
<u> </u>	cover	Species.	Statt		Number of				1	(A)
1					That Are OF Total Numb				1	(A)
Sapling/Shrub Stratum (Plot size: 15		_ = Total Cov	ver			oss All Strata			2	(B)
1					Percent of I That Are OE	Dominant Sp 3L, FACW, or		!	50.0%	(A/B)
Herb Stratum (Plot size: <u>5</u> )		_ = Total Cov	ver				• •			
1. Cirsium arvense	50%	Y	FA	ACU	Prevalence	Index Work	sheet:			
2. Sonchus arvensis	50%	Ŷ		AC	Total % Cov	er of:		Mult	iply by:	
3. Bromus inermis	5%	N	U	JPL	OBL species	s <u>(</u>	)%	x 1 _	0.0%	
4.					FACW speci	es (	)%	x 2	0.0%	
	105%	= Total Cov	ver		FAC species	5	0%	x 3	150.0%	
<u>Woody Vine Stratum</u> (Plot size: <u>30</u> )					FACU specie	es 5	0%	x 4	200.0%	
					UPL species		5%	x 5	25.0%	
1		= Total Cov	ver		Column Tot		5.0%	(A)	375%	(B)
% Bare Ground in Herb Stratum	-					ce Index = B				(0)
					Prevalent	Le muex – D	- A		3.57	
					Hydrophyti	c Vegetatio	n Indicat	ors:		
					1 - Rap	oid Test for H	lydrophy	tic Ve	getation	
					2 - Dor	ninance Tes	t if >50%			
					3 - Pre	valence Inde	ex is $\leq 3.0$	)		
						rphological arks or on a	•	•		porting data
						matic Hydro				n)
					Indicators of					ıst be
					present, unle Hydrophyti					
					Vegetation Present?	Yes		No	<u>x</u>	
Remarks:										

SOIL

Depth	Matrix			Redox Fea	atures					_
(inches)	Color:	%	Color:	%	Type:	Loc:	Text	ure:	Rema	arks:
0-20	10YR 2/1	100%					Lo	am		
Type: C=Cond	centration, D=Dep	letion, RM=R	Reduced Matr	ix, CS=Covered	or Coated Sand	d Grains		Location:	PL=Pore Lining	, M=Matrix
	dicators: (Applica			-			Indicators	for Problen	natic Hydric So	, vils
Histosol	(A1)			Sandy Gleve	d Matrix (S4)		1 cm I	Muck (A9) <b>(I</b>	LRR I, J)	
	bipedon (A2)			Sandy Redo					ox (A16) <b>(LRR F</b>	, G, H)
Black His				 Stripped Ma				Surface (S7)		
Hydroge	en Sulfide (A4)		_	Loamy Muck	ky Mineral (F1)	)	High F	lains Depre	essions (F16)	
Stratifie	d Layers (A5) (LR	R F)	_	Loamy Gleye	ed Matrix (F2)		(LRR H	l outside o	f MLRA 72 & 7	3)
1 cm Mι	uck (A9) <b>(LRR F, G,</b>	H)		Depleted Ma	atrix (F3)		Reduc	ed Vertic (I	F18)	
Deplete	d Below Dark Surf	ace (A11)	_	Redox Dark	Surface (F6)		Red Pa	arent Mate	rial (TF2)	
Thick Da	ark Surface (A12)			Depleted Da	rk Surface (F7)	)	Very S	hallow Dar	k Surface (TF12	2)
Sandy N	luck Mineral (S1)			Redox Depre	essions (F8)		Other	(Explain in	Remarks)	
2.5 cm N	Mucky Peat or Pea	t (S2) <b>(LRR G</b>	i, H)	High PLains	Depression (F1	.6)			ytic vegetation	
5 cm Mι	ucky Peat or Peat	S3) <b>(LRR F)</b>		(MLRA 72 &	73 of LRR H)		hydrology problemati		esent, unless di	sturbed or
Restrictive La	ayer (if present):						•			
Type:							Hydric Soil	Present?	Yes	No X
							Tryunc 30h	Tresent:	103	
Depth (in Remarks:	nches):						-			
Remarks:							-			
Remarks: HYDROLOG	5Y									
Remarks: HYDROLOG Wetland Hyd	iY Irology Indicators	f one require	ed: check all t	hat apply)			Se	condary Inc	licators (2 or m	nore required)
Remarks: <b>HYDROLOG</b> Wetland Hyd Primary Indic	5Y	f one require					See		licators (2 or m pil Cracks (B6)	nore required)
Remarks: <b>HYDROLOG</b> Wetland Hyd Primary Indic Surface V	<b>SY</b> Irology Indicators rators (minimum c Water (A1)	f one require	Sa	hat apply) It Crust (B11) uatic Invertebra	ates (B13)		See	Surface So	oil Cracks (B6)	
Remarks: <b>HYDROLOG</b> Wetland Hyd Primary Indic Surface V	<b>FY</b> Irology Indicators Lators (minimum c Vater (A1) ter Table (A2)	f one require	Sa Aq	lt Crust (B11)			Ser	Surface So Sparsely \	oil Cracks (B6)	oore required) cave Surface (B8
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat	<b>GY</b> Irology Indicators Lators (minimum c Vater (A1) ter Table (A2) on (A3)	f one require	Sa Aq Hy	lt Crust (B11) Juatic Invertebra	Odor (C1)		See	Surface So Sparsely V Drainage	oil Cracks (B6) /egetated Cono Patterns (B10)	
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M	<b>GY</b> Irology Indicators Lators (minimum c Vater (A1) ter Table (A2) on (A3)	f one require	Sa Aq Hy Dr	lt Crust (B11) Juatic Invertebra Indrogen Sulfide	Odor (C1) Table (C2)	ing Roots (		Surface So Sparsely V Drainage	oil Cracks (B6) /egetated Cono Patterns (B10) Rhizospheres o	cave Surface (B8
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep	<b>SY</b> Irology Indicators cators (minimum of Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) posits (B3)	f one require	Sal Aq Dr Ox Ox <b>(w</b>	lt Crust (B11) uatic Invertebra drogen Sulfide y-Season Water idized Rhizosph <b>here not tilled)</b>	Odor (C1) Table (C2) eres along Livi	ing Roots (		Surface So Sparsely V Drainage Oxidized I <b>(where ti</b> Crayfish B	oil Cracks (B6) /egetated Cond Patterns (B10) Rhizospheres o <b>Iled)</b> Burrows (C8)	cave Surface (B8 n Living Roots ((
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Mat	<b>iY</b> <b>Irology Indicators</b> rators (minimum of Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4)	f one require	Sal Aq Hy Dr Ox Ox Pre	lt Crust (B11) Juatic Invertebra drogen Sulfide y-Season Water idized Rhizosph here not tilled) esence of Reduc	Odor (C1) Table (C2) eres along Livi ced Iron (C4)	ing Roots (		Surface So Sparsely V Drainage Oxidized I <b>(where ti</b> Crayfish B Saturation	oil Cracks (B6) /egetated Cond Patterns (B10) Rhizospheres o Iled) Burrows (C8) n Visible on Aet	cave Surface (B8 n Living Roots (( rial Imagery (C9)
Argeneric Algal Market	<b>FY</b> <b>Irology Indicators</b> rators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) roosits (B3) t or Crust (B4) osits (B5)		Sal Aq Hy Dr Ox Ox Pro Th	It Crust (B11) Juatic Invertebra Idrogen Sulfide Y-Season Water Idized Rhizosph here not tilled) esence of Reduction in Muck Surface	Odor (C1) Table (C2) eres along Livi ced Iron (C4) e (C7)	ing Roots (		Surface So Sparsely V Drainage Oxidized I <b>(where til</b> Crayfish B Saturation Geomorp	oil Cracks (B6) /egetated Cond Patterns (B10) Rhizospheres o <b>Iled)</b> Burrows (C8) n Visible on Aen hic Position (D2)	cave Surface (B8 n Living Roots (( rial Imagery (C9)
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Ma Iron Dep Inundatic	Frology Indicators ators (minimum of Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria		Sal Aq Hy Dr Ox Ox Pro Th	lt Crust (B11) Juatic Invertebra drogen Sulfide y-Season Water idized Rhizosph here not tilled) esence of Reduc	Odor (C1) Table (C2) eres along Livi ced Iron (C4) e (C7)	ing Roots (		Surface So Sparsely \ Drainage Oxidized I <b>(where ti</b> Crayfish B Saturation Geomorp FAC-Neut	oil Cracks (B6) /egetated Conc Patterns (B10) Rhizospheres o <b>lled)</b> Burrows (C8) n Visible on Aer hic Position (D2 ral Test (D5)	cave Surface (B8 n Living Roots (( rial Imagery (C9) 2)
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Ma Iron Dep Inundatic	<b>FY</b> <b>Irology Indicators</b> rators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) roosits (B3) t or Crust (B4) osits (B5)		Sal Aq Hy Dr Ox Ox Pro Th	It Crust (B11) Juatic Invertebra Idrogen Sulfide Y-Season Water Idized Rhizosph here not tilled) esence of Reduction in Muck Surface	Odor (C1) Table (C2) eres along Livi ced Iron (C4) e (C7)	ing Roots (		Surface So Sparsely \ Drainage Oxidized I <b>(where ti</b> Crayfish B Saturation Geomorp FAC-Neut	oil Cracks (B6) /egetated Cond Patterns (B10) Rhizospheres o <b>Iled)</b> Burrows (C8) n Visible on Aen hic Position (D2)	cave Surface (B8 n Living Roots (( rial Imagery (C9) 2)
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Ma Iron Dep Inundatic	<b>iY</b> <b>Irology Indicators</b> rators (minimum of Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) rosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria rained Leaves (B9)		Sal Aq Hy Dr Ox Ox Pro Th	It Crust (B11) Juatic Invertebra Idrogen Sulfide Y-Season Water Idized Rhizosph here not tilled) esence of Reduction in Muck Surface	Odor (C1) Table (C2) eres along Livi ced Iron (C4) e (C7)	ing Roots (		Surface So Sparsely \ Drainage Oxidized I <b>(where ti</b> Crayfish B Saturation Geomorp FAC-Neut	oil Cracks (B6) /egetated Conc Patterns (B10) Rhizospheres o <b>lled)</b> Burrows (C8) n Visible on Aer hic Position (D2 ral Test (D5)	cave Surface (B8 n Living Roots (( rial Imagery (C9) 2)
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Mar Iron Depo Inundatic Water-St	FY Irology Indicators ators (minimum of Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) nosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria ations:		Sal Aq Dr Ox Ox Pra Th 7)Ot	It Crust (B11) Juatic Invertebra Idrogen Sulfide Y-Season Water Idized Rhizosph here not tilled) esence of Reduction in Muck Surface	Odor (C1) Table (C2) eres along Livi ced Iron (C4) e (C7)	ing Roots (		Surface So Sparsely \ Drainage Oxidized I <b>(where ti</b> Crayfish B Saturation Geomorp FAC-Neut	oil Cracks (B6) /egetated Conc Patterns (B10) Rhizospheres o <b>lled)</b> Burrows (C8) n Visible on Aer hic Position (D2 ral Test (D5)	cave Surface (B8 n Living Roots (( rial Imagery (C9) 2)
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Mai Iron Depu Inundatic Water-St Field Observa	<b>SY</b> <b>Irology Indicators</b> ators (minimum of Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria rained Leaves (B9) <b>ations:</b> er Present? Ye	l Imagery (B7	Sai Aq Hy Or Ox Ox Th 7)Ot Th O	It Crust (B11) Juatic Invertebra drogen Sulfide y-Season Water dized Rhizosph <b>here not tilled)</b> esence of Reduc in Muck Surface her (Explain in F	Odor (C1) Table (C2) eres along Livi ced Iron (C4) e (C7)		C3)	Surface So Sparsely \ Drainage Oxidized I <b>(where ti</b> Crayfish E Saturation Geomorp FAC-Neut Frost-Hea	oil Cracks (B6) /egetated Cond Patterns (B10) Rhizospheres o <b>lled)</b> Burrows (C8) n Visible on Aen hic Position (D2 ral Test (D5) ave Hummocks	cave Surface (B8 n Living Roots (G rial Imagery (C9) 2) (D7) <b>(LRR F)</b>
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Mar Iron Depe Inundatic Water-St Field Observa Surface Water Saturation Pr	<b>iY</b> <b>Irology Indicators</b> rators (minimum of Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) rosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria rained Leaves (B9) <b>ations:</b> er Present? Ye resent? Ye	l Imagery (B7	Sai Aq Hy Or Ox Pra Th 7)Ot Ot Ot Ot	It Crust (B11) Juatic Invertebra drogen Sulfide y-Season Water idized Rhizosph here not tilled) esence of Reduc in Muck Surface her (Explain in F	Odor (C1) Table (C2) eres along Livi ced Iron (C4) e (C7)			Surface So Sparsely \ Drainage Oxidized I <b>(where ti</b> Crayfish E Saturation Geomorp FAC-Neut Frost-Hea	oil Cracks (B6) /egetated Cond Patterns (B10) Rhizospheres o <b>lled)</b> Burrows (C8) n Visible on Aen hic Position (D2 ral Test (D5) ave Hummocks	cave Surface (B8 n Living Roots (( rial Imagery (C9) 2)
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Mai Drift Dep Algal Mai Iron Depu Inundatic Water-St Field Observa Surface Water Surface Water Saturation Pr (includes cap	<b>iY</b> <b>irology Indicators</b> rators (minimum of Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) nosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria rained Leaves (B9) <b>ations:</b> er Present? Ye resent? Ye	l Imagery (B7 s Nc s Nc s Nc	Sai Aq Dr Ox Ox Th 7)Ot Th 7)Ot Th 0X De X De X De	It Crust (B11) Juatic Invertebra drogen Sulfide y-Season Water idized Rhizosph here not tilled) esence of Reduc in Muck Surface her (Explain in F pth (inches): pth (inches):	Odor (C1) Table (C2) eres along Livi eed Iron (C4) e (C7) Remarks)	Wetland	(C3)	Surface So Sparsely \ Drainage Oxidized I <b>(where ti</b> Crayfish E Saturation Geomorp FAC-Neut Frost-Hea	oil Cracks (B6) /egetated Cond Patterns (B10) Rhizospheres o <b>lled)</b> Burrows (C8) n Visible on Aen hic Position (D2 ral Test (D5) ave Hummocks	cave Surface (B8 n Living Roots (G rial Imagery (C9) 2) (D7) <b>(LRR F)</b>

Project/Site: Parshall Transload	d Facility	City/Cou	inty:		Makoti/ Ward	I	Sam	pling Da	te: 8	8/27/2015
Applicant/Owner:	Barr Engineerir		' _			North		pling Poi		DP28W
Investigator(s): A Steger	man & M Keller	-	Se	ction, Tow	nship, Range:		13,1	52N, 88\	N	
Landform (hillslope, terrace, etc.):	depression		Local r	relief (conc	ave, convex, n	one):	Con	vex	Slope (%	): <5%
Subregion (LRR): LRR-F		Lat:	47.9	83248	Long:				Datum:	NAD83
Soil Map Unit Name:	C272A-Ham					NWI clas				MAd
Are climatic/hydrologic conditions on the si										
Are Vegetation <u>No</u> , Soil <u>No</u> , or H		-						nt? Yes	Х	No
Are Vegetation <u>No</u> , Soil <u>No</u> , or H					needed, expla					
SUMMARY OF FINDINGS – Attach s	•	• •	ling p	oint loca	tions, trans	ects, imp	ortant	feautr	es, etc.	]
Hydric Soil Present? Yo	es <u>X</u> No			is the San within a \	npled Area Netland?	Yes	х	No		
Wetland Hydrology Present? Ye	es <u>X</u> No			within a v	vetianu:					
Remarks:										
VEGETATION – Use scientific name	s of plants									
<u>Tree Stratum</u> (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indica Statu		Dominance	e Test Wor	ksheet:			
<u>nee stratum</u> (not size. <u>30</u> )	Cover	species:	Statu	5	Number of	Dominant	Species			
1					That Are O	BL, FACW,	or FAC:		1	(A)
1		= Total Cov	ver		Total Num	per of Dom	inant			(5)
Sapling/Shrub Stratum (Plot size: <u>15</u>	)				Species Act				1	(B)
					Percent of		•		100.0%	(A/B)
1		= Total Cov	ver		That Are O	BL, FACW,	or FAC:		100.076	(A) D)
Herb Stratum (Plot size: <u>5</u> )					Prevalence	Index Wo	rksheet			
1. Typha latifolia	80%	Y	0	BL	Total % Co				tiply by:	
2. Hordeum jubatum	10%	Ν	FAG	CW			0=0/			
3. Rumex occidentalis	5%	Ν	0	BL	OBL specie		85%	_ x 1	85.0%	
4. Urtica dioica	5%	Ν	FA	AC	FACW spec	ies	10%	x 2	20.0%	_
5					FAC specie	s	5%	x 3	15.0%	
Woody Vine Stratum (Plot size: <u>30</u>	) 100%	= Total Cov	ver		FACU speci	es	0%	x 4	0.0%	
troody vine stratam (Fist size: 35	/				UPL specie	s	0%	x 5	0.0%	
1					Column To	tals: 1	00.0%	(A)	120%	(B)
% Bare Ground in Herb Stratum		= Total Cov	ver		Prevaler	ce Index =	B/A =		1.20	
							-		1.20	
					Hydrophyt	ic Vegetati	ion Indic	ators:		
					1 - Ra	pid Test for	r Hydrop	hytic Ve	getation	
					<u>Y</u> 2 - Do	minance To	est if >50	0%		
					<u>Y</u> 3 - Pre	evalence In	dex is ≤	3.0		
						orphologica narks or on				porting data
						ematic Hyd			-	in)
					Indicators of present, unle					ust be
					Hydrophyt			JUCITIAL		
					Vegetation Present?	Ye	es <u>X</u>	_No _		
Remarks:					1					

~	0		
~	( )	I	
J	J		-

Depth							sence of indicators	
Depth	Matrix			Redox Feat	ures			
(inches) Cole	nr.	%	Color:	%	Type:	Loc:	Texture:	Remarks:
		100%	601011		Type:	200.	Loam	
·	<u> </u>	·	101/0 0					
7-20 10YF	R 5/1	90%	10YR 6/	/8 10%	C	Μ	Loam	
Type: C=Concentratio	on, D=Depletic	on, RM=Red	duced Mat	rix, CS=Covered or	Coated Sand	Grains	Location:	PL=Pore Lining, M=Matrix
Hydric Soil Indicators	: (Applicable	to all LRRs,	unless otl	herwise noted.)			Indicators for Probler	natic Hydric Soils
Histosol (A1)				Sandy Gleyed	Matrix (S4)		1 cm Muck (A9) <b>(I</b>	LRR I, J)
Histic Epipedon	(A2)		_	Sandy Redox (	S5)		Coast Prarie Red	ox (A16) <b>(LRR F, G, H)</b>
Black Histic (A3)			_	Stripped Matr	ix (S6)		Dark Surface (S7)	(LRR G)
Hydrogen Sulfide	e (A4)		_	Loamy Mucky	Mineral (F1)		High Plains Depre	essions (F16)
Stratified Layers	(A5) (LRR F)		_	Loamy Gleyed	Matrix (F2)		(LRR H outside o	f MLRA 72 & 73)
1 cm Muck (A9)	LRR F, G, H)		_	Depleted Mat	rix (F3)		Reduced Vertic (I	F18)
Depleted Below	Dark Surface	(A11)	_	Redox Dark Su	irface (F6)		Red Parent Mate	rial (TF2)
Thick Dark Surfa	ce (A12)		_	Depleted Dark	Surface (F7)		Very Shallow Dar	k Surface (TF12)
Sandy Muck Min	eral (S1)		_	X Redox Depres	sions (F8)		Other (Explain in	-
2.5 cm Mucky Pe	eat or Peat (S2	2) (LRR G, H	H) _	High PLains De	epression (F1	6)		ytic vegetation and wetland
5 cm Mucky Pea	t or Peat (S3)	(LRR F)		(MLRA 72 & 7	3 of LRR H)		hydrology must be pre problematic.	esent, unless disturbed or
Restrictive Layer (if p	resent):						problematic.	
Type:							Undria Cail Dracanta	Vec V Ne
Depth (inches):							Hydric Soil Present?	Yes <u>X</u> No
Remarks:								
HYDROLOGY								
Wetland Hydrology I	ndicators							
Primary Indicators (m	inimum of on	e required	; check all t	that apply)			Secondary Inc	licators (2 or more required)
Surface Water (A	1)		Sa	alt Crust (B11)			Surface S	oil Cracks (B6)
High Water Table	e (A2)		A	quatic Invertebrate	es (B13)		Sparsely \	/egetated Concave Surface (B8)
Saturation (A3)			H	ydrogen Sulfide Oo	dor (C1)		Drainage	Patterns (B10)
Water Marks (B1	)		D	ry-Season Water T	able (C2)		Oxidized	Rhizospheres on Living Roots (C3)
Sediment Deposit	ts (B2)		0	xidized Rhizospher	es along Livi	ng Roots (	C3) (where ti	lled)
Drift Deposits (B3				vhere not tilled)				Burrows (C8)
Algal Mat or Crus				resence of Reduce	. ,			n Visible on Aerial Imagery (C9)
Iron Deposits (B5		()		hin Muck Surface (				hic Position (D2)
X Inundation Visible		agery (B7)	0	ther (Explain in Re	marks)			ral Test (D5)
	aves (B9)						Frost-Hea	ve Hummocks (D7) (LRR F)
Water-Stained Le								
Field Observations:					I			
	nt? Yes _	No	X D	epth (inches):				
Field Observations:		No No		epth (inches): epth (inches):		Wetland	Hydrology Present?	Yes <u>X</u> No
Field Observations: Surface Water Preser Water Table Present? Saturation Present?	YesYes		X D			Wetland	Hydrology Present?	Yes X No
Field Observations: Surface Water Preser Water Table Present? Saturation Present? (includes capillary frir	Yes Yes	No No	X D	epth (inches): epth (inches):				Yes <u>X</u> No
Field Observations: Surface Water Presert Water Table Present? Saturation Present? (includes capillary frir Describe Recorded Da	Yes Yes	No No	X D	epth (inches): epth (inches):	evious inspec			Yes <u>X</u> No
Field Observations: Surface Water Preser Water Table Present? Saturation Present? (includes capillary frir	Yes Yes	No No	X D	epth (inches): epth (inches):	evious inspec			Yes <u>X</u> No

Project/Site: Parshall Transload Fac	cility	Citv/Cou	untv:		Makoti/ Ward		Samplir	ng Date	e: 8	/27/2015
	arr Engineerir				State: N		Samplir	-		DP29U
Investigator(s): A Stegeman	& M Keller	0			wnship, Range:		13 , 1521	-		
			Local	relief (cor	ncave, convex, no				Slope (%)	: <5%
					Long:				Datum:	NAD83
Soil Map Unit Name:						NWI classif			PEN	/IAd
Are climatic/hydrologic conditions on the site ty				-						
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydr								Yes	Х	No
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydr					(if needed, explair					
SUMMARY OF FINDINGS – Attach site	•	· ·	ling p	oint loc	ations, transe	cts, impoi	tant fe	autre	es, etc.	
Hydrophytic Vegetation Present? Yes	No	Χ								
Hydric Soil Present? Yes	X No				ampled Area a Wetland?	Ves	No	x		
Wetland Hydrology Present? Yes	No	Х		WILIIII d						
Remarks:										
VEGETATION – Use scientific names o	f plants									
Tree Stratum (Plot size: <u>30</u> )	Absolute %	Dominant	Indic		Dominance	Test Works	neet:			
<u>The stratum</u> (Plot size. <u>30</u> )	Cover	Species?	Statu	JS	Number of [	Dominant Sp	ecies			
1					That Are OB	•			1	(A)
1		= Total Co	ver		Total Numb	er of Domina	ant			
Sapling/Shrub Stratum (Plot size: 15	_)				Species Acro				2	(B)
					Percent of D	•		5	50.0%	(A/B)
1		= Total Co	ver		That Are OB	L, FACW, or	FAC:		0.0%	(A/D)
Herb Stratum (Plot size: <u>5</u> )			ver		Prevalence	Index Work	sheet:			
1. Sonchus arvensis	45%	Y	F	AC	Total % Cov			N/III+i	nly hy:	
2. <u>Cirsium arvense</u>	40%	Y	FA	ACU				-	ply by:	_
3. Bromus inermis	10%	Ν	U	IPL	OBL species			x 1 _	0.0%	_
4. Hordeum jubatum	5%	Ν	FA	CW	FACW specie	es <u>5</u>	%	x 2	10.0%	_
5					FAC species	4	5%	x 3	135.0%	
Woody Vine Stratum (Plot size: <u>30</u> )	100%	= Total Co	ver		FACU specie	es40	)%	x 4	160.0%	
(not size <u>so</u> )					UPL species	10	)%	x 5	50.0%	
1					Column Tota	als: 100	0.0%	(A)	355%	(B)
		= Total Co	ver		Prevalenc	e Index = B/			3.55	
% Bare Ground in Herb Stratum	-								5.55	_
					Hydrophytic	: Vegetatior	Indicato	ors:		
					1 - Rap	id Test for H	ydrophyt	ic Veg	etation	
					2 - Dom	ninance Test	if >50%			
					3 - Prev	alence Inde	x is ≤ 3.0			
						phological A arks or on a	•	•		porting data
						matic Hydro			-	n)
					Indicators of h present, unles					ist be
					Hydrophytic			matic		
					Vegetation Present?	Yes	1	lo	<u>x</u>	
Remarks:										
NETHOLNS.										

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Profile Descr									
Depth	Matr	ix			<b>Redox Feat</b>	ures			
(inches)	Color:	%		Color:	%	Type:	Loc:		Remarks:
0-210	10YR 2/2	1009	26	0.01.		iype.	200.	Loam	
					4 50/			Silt Loam	
10-20	10YR 4/2	85%	ó	10YR 5/6	15%	C	M		I
	contration D-F			lucad Matrix (		r Coatad Sand	Crains		
	centration, D=[					Coaleu Sanu	Grains		cation: PL=Pore Lining, M=Matrix
Hydric Soil Ir	ndicators: (App	licable to a	ll LRRs,	unless otherv	vise noted.)			Indicators for P	Problematic Hydric Soils
Histosol	l (A1)				Sandy Gleyed	Matrix (S4)			k (A9) <b>(LRR I, J)</b>
Histic Ep	oipedon (A2)				Sandy Redox (	(S5)			ie Redox (A16) <b>(LRR F, G, H)</b>
	istic (A3)				Stripped Matr				ice (S7) <b>(LRR G)</b>
	en Sulfide (A4)				Loamy Mucky				s Depressions (F16)
	d Layers (A5)				Loamy Gleyed			-	tside of MLRA 72 & 73)
	uck (A9) <b>(LRR F,</b>				Depleted Mat			Reduced V	
	d Below Dark S		L)		Redox Dark Su	( )			t Material (TF2)
	ark Surface (A1				Depleted Darl				ow Dark Surface (TF12)
'	/luck Mineral (S				Redox Depres			```	olain in Remarks)
	Mucky Peat or I			-	High PLains D		6)		drophytic vegetation and wetland
5 cm Mi	ucky Peat or Pe	at (S3) <b>(LR</b>	R F)		(MLRA 72 & 7	'3 of LRR H)		problematic.	t be present, unless disturbed or
Restrictive La	ayer (if present	:):						·	
Туре:								Hydric Soil Pres	sent? Yes X No
Type: Depth (ir Remarks:	nches):							Hydric Soil Pres	sent? Yes <u>X</u> No
Depth (ir	nches):							Hydric Soil Pres	sent? Yes <u>X</u> No
Depth (ir Remarks:								Hydric Soil Pres	sent? Yes <u>X</u> No
Depth (ir Remarks: <b>HYDROLOG</b>		Drs		_				Hydric Soil Pres	sent? Yes <u>X</u> No
Depth (ir Remarks: HYDROLOG Wetland Hyd	GY drology Indicate		quired;		apply)				
Depth (ir Remarks: HYDROLOG Wetland Hyd Primary India	GY drology Indicat cators (minimu		quired;					Second	lary Indicators (2 or more required)
Depth (ir Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V	GY drology Indicate		quired;	Salt C	apply) rust (B11) :ic Invertebrat	es (B13)		Second	
Depth (ir Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V	<b>GY</b> drology Indicat cators (minimu Water (A1) ter Table (A2)		quired;	Salt C	rust (B11)			Second Sur Spa	lary Indicators (2 or more required) rface Soil Cracks (B6)
Depth (ir Remarks: HYDROLOG Wetland Hyo Primary Indio Surface V High Wa Saturatio	<b>GY</b> drology Indicat cators (minimu Water (A1) ter Table (A2)		quired;	Salt C Aquat Hydro	rust (B11) ic Invertebrat	dor (C1)		Second Sur Spa Dra	lary Indicators (2 or more required) rface Soil Cracks (B6) arsely Vegetated Concave Surface (B8)
Depth (ir Remarks: HYDROLOG Wetland Hyd Primary Indio Surface V High Wa Saturatic Water M	<b>GY</b> drology Indicat cators (minimu Water (A1) ter Table (A2) on (A3)		quired;	Salt C Aquat Hydrc Dry-S	rust (B11) cic Invertebrat ogen Sulfide O	dor (C1) Fable (C2)	ng Roots (	Second Sur Spa Dra Oxi	lary Indicators (2 or more required) rface Soil Cracks (B6) arsely Vegetated Concave Surface (B8) ainage Patterns (B10)
Depth (ir Remarks: HYDROLOG Wetland Hyc Primary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep	<b>GY</b> drology Indicate cators (minimu Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3)		quired;	Salt C Aquat Hydro Dry-S Oxidiz <b>(whe</b> r	rust (B11) cic Invertebrat ogen Sulfide O eason Water T ced Rhizosphe <b>re not tilled)</b>	dor (C1) Fable (C2) res along Livir	ng Roots (	Second Sur Spa Dra Oxi C3) (wi	lary Indicators (2 or more required) rface Soil Cracks (B6) arsely Vegetated Concave Surface (B8) ainage Patterns (B10) idized Rhizospheres on Living Roots (C3 <b>here tilled)</b> ayfish Burrows (C8)
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Depth (ir Remarks: HYDROLOG Wetland Hyd Primary India Surface V High Wa Saturatia Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatia Water-St	GY drology Indicate cators (minimul Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on Ad tained Leaves (I ations:	<u>m of one re</u> erial Imager	гу (В7)	Salt C Aquat Aquat Ury-S Oxidiz Oxidiz Vrese Thin N Other	rust (B11) cic Invertebrat ogen Sulfide O eason Water T ced Rhizosphe re not tilled) nce of Reduce Muck Surface (	dor (C1) Fable (C2) res along Livir ed Iron (C4) (C7)	ng Roots (	Second Sur Dra C3) (wi C3) (wi C3) Cra Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca	lary Indicators (2 or more required) rface Soil Cracks (B6) arsely Vegetated Concave Surface (B8) ainage Patterns (B10) idized Rhizospheres on Living Roots (C3 here tilled) ayfish Burrows (C8) curation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5)
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Project/Site: Parshall Tra	insload Facility	City/County:		Makoti/ Ward		Sampling Da	te: {	3/25/2015
Applicant/Owner:	· · ·				lorth	Sampling Po		DP2U
	Stegeman & M Keller		Section, To	ownship, Range:		13 , 152N, 88		
Landform (hillslope, terrace, etc.):	depression			oncave, convex, no		None	Slope (%)	): <5%
Subregion (LRR):	LRR-F	Lat: 47.	.980215	Long:	-101.86	9853	Datum:	NAD83
Soil Map Unit Name:		-Hamerly loam			NWI classif			MCd
Are climatic/hydrologic conditions on	the site typical for this	time of year? Ye	s X	No	(if no, explair	n in Remarks.)	1	
Are Vegetation <u>No</u> , Soil <u>No</u>					umstances" p	resent? Yes	X	No
Are Vegetation <u>No</u> , Soil <u>No</u>		=						
SUMMARY OF FINDINGS – Att	ach site map show	ving sampling	point lo	cations, transe	cts, impor	tant feautr	es, etc.	
Hydrophytic Vegetation Present?	Yes X No							
Hydric Soil Present?	Yes No	x		Sampled Area	Ves	No >	(	
Wetland Hydrology Present?	Yes No	x	within	a Wetland?	103		<u> </u>	
Remarks:								
VEGETATION – Use scientific r	•	Dominant Indi	icator					
Tree Stratum (Plot size: <u>30</u>	Absolute % _) Cover	Dominant Indi Species? Stat	icator tus	Dominance	Test Worksh	neet:		
					Dominant Sp			( • )
1					BL, FACW, or		1	(A)
		= Total Cover			er of Domina		1	(B)
Sapling/Shrub Stratum (Plot size: <u>2</u>	15)			•	oss All Strata		1	(0)
1					Dominant Spe BL, FACW, or		100.0%	(A/B)
1		= Total Cover			, 1 ACW, 01	IAC		,
Herb Stratum (Plot size: 5	_)			Prevalence	Index Works	heet:		
1. Phalaris arundinacea	75%		ACW	Total % Cov	er of:	Mul	tiply by:	
2. Bromus inermis	10%		UPL	OBL species	5	% x 1	5.0%	
3. <u>Persicaria amphibia</u>	5%	<u>N</u>	OBL					
4		= Total Cover		FACW speci			150.0%	
Woody Vine Stratum (Plot size: <u>30</u>				FAC species		% x 3	0.0%	
				FACU specie	es <u>0</u>	% x 4	0.0%	
1				UPL species	10	)% x 5	50.0%	
% Bare Ground in Herb Stratum		= Total Cover		Column Tot	als: 90.	0% (A)	205%	(B)
	0.0070			Prevalenc	ce Index = B/	A =	2.28	
				Hydrophyti	c Vegetation	Indicators:		
					•	ydrophytic Ve	getation	
							Setution	
					ninance Test			
					valence Inde			
						daptations (P seperate shee	•	porting data
				Proble	matic Hydrop	ohytic Vegeta	tion (Explai	in)
				Indicators of present, unle				ust be
				Hydrophyti Vegetation Present?		X No		
Remarks:								
nemarks.								

<b>.</b>										
Depth (inches)	Matrix			Redox Fea				ture:	Pom	arks:
· · ·	Color:	%	Color:	%	Type:	Loc:			Kein	di KS.
0-20	10YR 2/1	100%					Clay	/ Loam		
Type: C=Conce	entration, D=Deple	etion, RM=Redu	uced Matrix	, CS=Covered o	or Coated Sand	d Grains		Location:	PL=Pore Linin	g, M=Matrix
Hydric Soil Ind	licators: (Applicat	ole to all LRRs, r	unless othe	rwise noted.)			Indicators	for Problen	natic Hydric S	oils
Histosol (	A1)			Sandy Gleyed	d Matrix (S4)		1 cm	Muck (A9) <b>(L</b>	.RR I, J)	
Histic Epi	pedon (A2)			Sandy Redox	(S5)		Coast	Prarie Redo	ox (A16) <b>(LRR</b>	F, G, H)
Black Hist	tic (A3)			Stripped Mat	rix (S6)		Dark	Surface (S7)	(LRR G)	
Hydroger	n Sulfide (A4)			Loamy Muck	y Mineral (F1)		High	Plains Depre	essions (F16)	
Stratified	Layers (A5) (LRR	. F)		Loamy Gleye	d Matrix (F2)		(LRR	H outside of	f MLRA 72 & 7	73)
1 cm Muo	ck (A9) <b>(LRR F, G, F</b>	1)		Depleted Ma	trix (F3)		Redu	ced Vertic (F	-18)	
Depleted	Below Dark Surfa	ce (A11)		Redox Dark S	urface (F6)		Red F	arent Mate	rial (TF2)	
Thick Dar	k Surface (A12)			Depleted Da	k Surface (F7)	)	Very	Shallow Dar	k Surface (TF1	.2)
Sandy Mu	uck Mineral (S1)			Redox Depre	ssions (F8)		Othe	r (Explain in	Remarks)	
2.5 cm M	lucky Peat or Peat	(S2) (LRR G, H)	)	_High PLains [	Depression (F1	.6)	Indicators	of hydrophy	tic vegetatior/	n and wetland
5 cm Mud	cky Peat or Peat (S	53) <b>(LRR F)</b>		(MLRA 72 &	73 of LRR H)		hydrology problemat	•	esent, unless c	listurbed or
Restrictive Lay	yer (if present):									
Туре:			_				Hydric Soi	l Present?	Yes	No X
Depth (inc	ches):									
Remarks:										
HYDROLOG										
HYDROLOG Wetland Hydr	ology Indicators			at apply)			Se		licators (2 or r	
HYDROLOG Wetland Hydr Primary Indica	<b>ology Indicators</b> itors (minimum of	one required;					<u>Se</u>			nore required)
HYDROLOG Wetland Hydr Primary Indica Surface W	rology Indicators ators (minimum of Vater (A1)	one required;	Salt	Crust (B11)	tes (B13)		Se	Surface So	oil Cracks (B6)	· · ·
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate	rology Indicators Itors (minimum of Pater (A1) er Table (A2)	<sup>i</sup> one required; d	Salt Aqu	Crust (B11) atic Invertebra			Se	Surface So Sparsely V	oil Cracks (B6) /egetated Cor	icave Surface (
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation	rology Indicators ators (minimum of later (A1) er Table (A2) a (A3)	one required;	Salt Aqu Hyd	Crust (B11) atic Invertebra rogen Sulfide C	Odor (C1)			Surface So Sparsely V Drainage	oil Cracks (B6) /egetated Cor Patterns (B10	ncave Surface (
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Ma	rology Indicators ators (minimum of 'ater (A1) er Table (A2) n (A3) ırks (B1)	one required;	Salt Aqu Hyd Dry-	Crust (B11) atic Invertebra rogen Sulfide C Season Water	)dor (C1) Table (C2)	ng Roots (		Surface So Sparsely V Drainage Oxidized F	oil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres (	icave Surface (
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Ma Sediment	rology Indicators ators (minimum of 'ater (A1) er Table (A2) n (A3) nrks (B1) Deposits (B2)	<sup>:</sup> one required; (	Salt Aqu Hyd Dry- Oxic	Crust (B11) atic Invertebra rogen Sulfide C Season Water lized Rhizosph	)dor (C1) Table (C2)	ng Roots (		Surface So Sparsely V Drainage Oxidized F (where til	bil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres ( <b>Iled)</b>	ncave Surface (
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo	rology Indicators ators (minimum of 'ater (A1) er Table (A2) n (A3) nrks (B1) Deposits (B2)	<sup>i</sup> one required; d	Salt Aqu Hyd Dry- Oxic <b>(wh</b>	Crust (B11) atic Invertebra rogen Sulfide C Season Water	Odor (C1) Table (C2) eres along Livi	ng Roots (		Surface So Sparsely V Drainage Oxidized F (where til Crayfish B	bil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres ( Iled) uurrows (C8)	ncave Surface (
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo	rology Indicators itors (minimum of 'ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)	one required;	Salt Aqu Hyd Dry- Oxic <b>(wh</b> Pres	Crust (B11) atic Invertebra rogen Sulfide C Season Water lized Rhizosph <b>ere not tilled)</b>	Odor (C1) Table (C2) eres along Livi ed Iron (C4)	ng Roots (		Surface So Sparsely V Drainage Oxidized F (where til Crayfish B Saturation	bil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres ( Iled) uurrows (C8)	ncave Surface ( ) on Living Roots erial Imagery ((
HYDROLOGN Wetland Hydr Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo:	rology Indicators itors (minimum of 'ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)		Salt Aqu Hyd Dry- Oxic <b>(wh</b> Pres Thin	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizosphe ere not tilled) sence of Reduc	Odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)	ng Roots (		Surface Sc Sparsely V Drainage Oxidized F (where til Crayfish B Saturation Geomorp	Dil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres o I <b>led)</b> nurrows (C8) n Visible on Ae	ncave Surface ( ) on Living Roots erial Imagery ((
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatior	rology Indicators ators (minimum of ater (A1) er Table (A2) a (A3) arks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5)		Salt Aqu Hyd Dry- Oxic <b>(wh</b> Pres Thin	Crust (B11) atic Invertebra rogen Sulfide ( Season Water dized Rhizosphi ere not tilled) sence of Reduc Muck Surface	Odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)	ng Roots (		Surface Sc Sparsely V Drainage Oxidized F (where til Crayfish B Saturation Geomorp FAC-Neut	Dil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres ( Ied) uurrows (C8) n Visible on Ae hic Position (E	ncave Surface ( ) on Living Roots erial Imagery (0 )2)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depos Inundatior Water-Sta	rology Indicators itors (minimum of 'ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial ined Leaves (B9)		Salt Aqu Hyd Dry- Oxic <b>(wh</b> Pres Thin	Crust (B11) atic Invertebra rogen Sulfide ( Season Water dized Rhizosphi ere not tilled) sence of Reduc Muck Surface	Odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)	ng Roots (		Surface Sc Sparsely V Drainage Oxidized F (where til Crayfish B Saturation Geomorp FAC-Neut	Dil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres of Iled) ourrows (C8) o Visible on Ae hic Position (E ral Test (D5)	ncave Surface ( ) on Living Roots erial Imagery (0 )2)
HYDROLOGN Wetland Hydr Primary Indica Surface W High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatior Water-Sta	rology Indicators itors (minimum of fater (A1) er Table (A2) n (A3) irks (B1) Deposits (B2) or Crust (B4) sits (B5) n Visible on Aerial ined Leaves (B9) tions:	Imagery (B7)	Salt Aqu Hyd Ory- Oxic <b>(wh</b> Pres Thin Othe	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizosphe ere not tilled) sence of Reduc n Muck Surface er (Explain in R	Odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)	ng Roots (		Surface Sc Sparsely V Drainage Oxidized F (where til Crayfish B Saturation Geomorp FAC-Neut	Dil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres of Iled) ourrows (C8) o Visible on Ae hic Position (E ral Test (D5)	ncave Surface ( ) on Living Roots erial Imagery (0 )2)
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatior Water-Sta Field Observat Surface Water	rology Indicators ators (minimum of 'ater (A1) er Table (A2) n (A3) rrks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial ined Leaves (B9) tions: Present? Yes	Imagery (B7) s No	X Dep	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizosphe ere not tilled) sence of Reduc Muck Surface er (Explain in R th (inches):	Odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)		(C3)	Surface So Sparsely V Drainage Oxidized F (where til Crayfish B Saturatior Geomorp FAC-Neut Frost-Hea	Dil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres of led) n Visible on Ae hic Position (E ral Test (D5) ve Hummocks	ncave Surface ( ) on Living Roots erial Imagery (0 02) 5 (D7) <b>(LRR</b>
HYDROLOGN Wetland Hydr Primary Indica Surface W High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatior Water-Sta Sturation Pre	rology Indicators itors (minimum of fater (A1) er Table (A2) n (A3) irks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial ined Leaves (B9) tions: resent? Yes esent? Yes	Imagery (B7)	X Dep	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizosphe ere not tilled) sence of Reduc n Muck Surface er (Explain in R	Odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7)			Surface So Sparsely V Drainage Oxidized F (where til Crayfish B Saturatior Geomorp FAC-Neut Frost-Hea	Dil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres of Iled) ourrows (C8) o Visible on Ae hic Position (E ral Test (D5)	ncave Surface ( ) on Living Roots erial Imagery (0 )2) 5 (D7) <b>(LRR</b>
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatior Water-Sta Steld Observat Surface Water Water Table P Saturation Pre (includes capil	rology Indicators itors (minimum of fater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) or Crust (B4) sits (B5) n Visible on Aerial ined Leaves (B9) tions: resent? Yes lary fringe)	Imagery (B7) s No s No s No	X Dep	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizospho ere not tilled) sence of Reduc Muck Surface er (Explain in R th (inches): th (inches): th (inches):	Odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7) emarks)	Wetland	(C3)	Surface So Sparsely V Drainage Oxidized F (where til Crayfish B Saturatior Geomorp FAC-Neut Frost-Hea	Dil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres of led) n Visible on Ae hic Position (E ral Test (D5) ve Hummocks	ncave Surface ( ) on Living Roots erial Imagery (0 02) 5 (D7) <b>(LRR</b>
HYDROLOG Wetland Hydr Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatior Water-Sta Steld Observat Surface Water Water Table P Saturation Pre (includes capil	rology Indicators itors (minimum of fater (A1) er Table (A2) n (A3) irks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial ined Leaves (B9) tions: resent? Yes esent? Yes	Imagery (B7) s No s No s No	X Dep	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizospho ere not tilled) sence of Reduc Muck Surface er (Explain in R th (inches): th (inches): th (inches):	Odor (C1) Table (C2) eres along Livi ed Iron (C4) (C7) emarks)	Wetland	(C3)	Surface So Sparsely V Drainage Oxidized F (where til Crayfish B Saturatior Geomorp FAC-Neut Frost-Hea	Dil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres of led) n Visible on Ae hic Position (E ral Test (D5) ve Hummocks	ncave Surface ( ) on Living Roots erial Imagery (0 02) 5 (D7) <b>(LRR</b>

Project/Site: Parshall Trans	load Facility	City/Cou	inty:		Makoti/ Ward	b	Sam	pling Dat	te: 8	8/27/2015
Applicant/Owner:	Barr Engineerir		' _			North		pling Poi		DP30W
Investigator(s): A Ste	egeman & M Keller	-	Se	ction, Tow	nship, Range:		13,1	52N, 88V	v	
Landform (hillslope, terrace, etc.):	depression		Local r	elief (conc	ave, convex, n	one):	Cond	ave	Slope (%)	): <5%
Subregion (LRR): LRF	₹-F	Lat:	47.98	83649	Long:	-101.	875973		Datum:	NAD83
Soil Map Unit Name:	C272A-Ham					NWI clas				MA
Are climatic/hydrologic conditions on th										
Are Vegetation <u>No</u> , Soil <u>No</u> ,								nt? Yes	X	No
Are Vegetation <u>No</u> , Soil <u>No</u> ,					needed, expla					
SUMMARY OF FINDINGS – Attac			ling po	oint loca	tions, trans	ects, imp	ortant	feautr	es, etc.	]
Hydrophytic Vegetation Present?				In the Case						
Hydric Soil Present?	Yes X No			within a V	npled Area	Yes	х	No		
Wetland Hydrology Present?	Yes X No			within a v	vetianu:					
Remarks:										
VEGETATION – Use scientific na	mes of plants									
Trop Stratum (Dist size: 20	Absolute %	Dominant	Indica		Dominanc	e Test Wor	ksheet:			
Tree Stratum (Plot size: <u>30</u> )	Cover	Species?	Status	S	Number of	<sup>-</sup> Dominant	Species			
					That Are O		•		2	(A)
1		= Total Cov	ver		Total Num	ber of Dom	inant			
Sapling/Shrub Stratum (Plot size: 15	)				Species Ac	ross All Stra	ata:		2	(B)
					Percent of		•		00.00/	( ) ( )
1	·	= Total Cov	ior		That Are O	BL, FACW,	or FAC:		100.0%	(A/B)
Herb Stratum (Plot size: <u>5</u> )			VEI		Provalence	e Index Wo	rkshaat			
1. Phalaris arundinacea	45%	Y	FAC	CW			INSTICCT			
2. Typha latifolia	45%	Y	OE	BL	Total % Co				iply by:	
3. Symphyotrichum ericoides	5%	Ν	FAC	CU	OBL specie	es	45%	_ x1	45.0%	_
4. Sonchus arvensis	5%	Ν	FA	AC	FACW spec	cies	45%	x 2	90.0%	
5					FAC specie	s	5%	x 3	15.0%	
Woody Vine Stratum (Plot size: <u>30</u>	100%	= Total Cov	ver		FACU spec	ies	5%	x 4	20.0%	
Woody Vine Stratum (Flot size. 30	)				UPL specie	S	0%	x 5	0.0%	
1					Column To	tals: 1	.00.0%	(A)	170%	(B)
		= Total Cov	ver			nce Index =		_ (••/ _	1.70	(-)
% Bare Ground in Herb Stratum							-		1.70	
					Hydrophyt	ic Vegetati	ion Indic	ators:		
					1 - Ra	pid Test fo	r Hydrop	hytic Ve	getation	
					Y 2 - Do	minance T	est if >5(	)%		
					Y 3 - Pr	evalence In	dex is ≤	3.0		
					4 - Me		al Adapta	ations (P		porting data
						ematic Hyd				in)
					Indicators of					ust be
					present, unl Hydrophyt		ea or pro	polemati		
					Vegetation Present?	า	es <u>X</u>	No		
Remarks:										

~		
~	( )	
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Profile Descr	iption: (Descr	ibe to the	depth n	eeded to	document the	e indicat	or or confi	m the ab	osence of indica	itors	
Depth	Mat	rix			Redox	Featur	es				
(inches)	Color:	%	·	Color			Type:	Loc:	Texture	e:	Remarks:
0-10	10YR 2/1			60101				200.	Clay Loa	am	
				1010	4/4 10		6	5.4	Clay		
10-20	10YR 2/1	90	<b>%</b>	10YR -	4/4 10	<u>%</u>	С	Μ		·	
Type: C=Con	centration, D=	Depletion,	RM=Re	duced Ma	atrix, CS=Cover	ed or Co	oated Sand	Grains	Lo	ocation:	PL=Pore Lining, M=Matrix
Hydric Soil Ir	dicators: (Ap	plicable to	all LRRs	, unless c	otherwise note	ed.)			Indicators for	Problem	natic Hydric Soils
Histosol	(A1)				Sandy Gl	eyed Ma	atrix (S4)		1 cm Mu	ck (A9) <b>(L</b>	RR I, J)
Histic Ep	pipedon (A2)				Sandy Re	-			Coast Pra	rie Redo	ox (A16) (LRR F, G, H)
Black Hi	stic (A3)				Stripped	Matrix (	(S6)		Dark Surf	ace (S7)	(LRR G)
Hydroge	en Sulfide (A4)				Loamy N	1ucky M	ineral (F1)		High Plai	ns Depre	ssions (F16)
Stratifie	d Layers (A5)	(LRR F)			Loamy G	leyed M	latrix (F2)		(LRR H or	utside of	MLRA 72 & 73)
1 cm M	uck (A9) <b>(LRR F</b>	, G, H)			Depleted	d Matrix	(F3)		Reduced	Vertic (F	18)
Deplete	d Below Dark	Surface (A:	L1)		Redox Da	ark Surfa	ace (F6)		Red Pare	nt Mater	ial (TF2)
Thick Da	ark Surface (A	12)			Depleted	l Dark Su	urface (F7)		Very Sha	llow Darl	< Surface (TF12)
Sandy N	1uck Mineral (	S1)			X Redox De	epressio	ns (F8)		Other (Ex	plain in	Remarks)
2.5 cm ľ	Mucky Peat or	Peat (S2)	(LRR G, I	н)	High PLa	ins Depr	ession (F16	i)	Indicators of h	ydrophy	tic vegetation and wetland
5 cm M	ucky Peat or P	eat (S3) <b>(L</b>	RR F)		(MLRA 7	2 & 73 c	of LRR H)			st be pre	sent, unless disturbed or
Restrictive L	ayer (if preser	nt)·							problematic.		
Type:	ayer (ii presei										
Depth (ir	choc):								Hydric Soil Pre	esent?	Yes X No
Remarks:	iciies).										
HYDROLOG	δY										
Wetland Hyd	rology Indica	tors									
Primary Indic	ators (minimu	um of one r	equired	; check a	ll that apply)				Secon	dary Ind	icators (2 or more required)
Surface \	Nater (A1)				Salt Crust (B11	.)			Su	urface Sc	vil Cracks (B6)
High Wa	ter Table (A2)				Aquatic Inverte	ebrates	(B13)		S	barsely V	egetated Concave Surface (B8)
Saturatio	on (A3)				Hydrogen Sulfi	ide Odor	r (C1)		D	rainage I	Patterns (B10)
Water M	arks (B1)				Dry-Season Wa	ater Tab	le (C2)		0	xidized F	hizospheres on Living Roots (C3
Sedimen	t Deposits (B2	.)			Oxidized Rhizo	spheres	along Livin	g Roots (	(C3) <b>(</b> v	vhere til	led)
	osits (B3)				(where not till						urrows (C8)
	t or Crust (B4)				Presence of Re		. ,				Visible on Aerial Imagery (C9)
	osits (B5)		()		Thin Muck Sur					•	nic Position (D2)
	on Visible on A	0	ery (B7)		Other (Explain	in Rema	arks)				al Test (D5)
Water-St	ained Leaves	(B9)							it	ost-Hea	ve Hummocks (D7) (LRR F)
Field Observ											
Surface Wate	er Present?	Yes	No	X	Depth (inches)	:					
Water Table	Present?	Yes			Depth (inches)	:		Wetland	l Hydrology Pre	sent?	Yes X No
Saturation Pr (includes cap		Yes	No	Х	Depth (inches)	:					
		tream guag	e, moni	toring we	ell, aerial photo	os, previ	ous inspect	ions), if a	vailable:		
Remarks:		00	. ,	5.00	,	,,		.,,			

Project/Site: Parshall Transload Fac	ility	City/Cou	nty:		Makoti/ Ward	k	Samp	ling Dat	te: 8	/27/2015
	nrr Engineerin					North	Samp	ling Poi	int:	DP31U
Investigator(s): A Stegeman			Se	ection, To	wnship, Range:		13 , 15	2N, 88\	N	
			Local r	relief (cor	ncave, convex, n	one):	Non	ĩ	Slope (%)	: <5%
Subregion (LRR): LRR-F					Long:	-101	.875912		Datum:	NAD83
Soil Map Unit Name:	C272A-Ham						ssification			MA
Are climatic/hydrologic conditions on the site ty										
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro								? Yes	X	No
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro										
SUMMARY OF FINDINGS – Attach site			ing po	oint loc	ations, trans	ects, imp	ortant f	eautr	es, etc.	
	No			la tha C						
	No	X			ampled Area a Wetland?	Yes	N	o X	[	
Wetland Hydrology Present? Yes	No	X								
Remarks: VEGETATION – Use scientific names of	nlanta									
VEGETATION – Use scientific names of	Absolute %	Dominant	Indica	ator						
<u>Tree Stratum</u> (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Statu		Dominance	e Test Wor	ksheet:			
		·			Number of		•		1	( • )
1					That Are O				1	(A)
Sapling/Shrub Stratum (Plot size: <u>15</u>	)	= Total Cov	ver		Total Num Species Ac				3	(B)
	-1				Percent of					( )
1					That Are O		•		33.3%	(A/B)
Herb Stratum (Plot size: <u>5</u> )		= Total Cov	/er							
1. Bromus inermis	40%	Y	11	PL	Prevalence	e Index Wo	orksheet:			
2. Sonchus arvensis	40%		FA		Total % Co	ver of:		Mult	tiply by:	
3. Cirsium arvense	20%	Y	FA		OBL specie	S	0%	x 1	0.0%	
4.					FACW spec	cies	0%	x 2	0.0%	
	100%	= Total Cov	ver		FAC specie	S	40%	x 3	120.0%	
Woody Vine Stratum (Plot size: <u>30</u> )					FACU spec	ies	20%	x 4	80.0%	
					UPL specie	s	40%	x 5	200.0%	
1		= Total Cov	ver		Column To		100.0%	(A)	400%	(B)
% Bare Ground in Herb Stratum	-							(~) _		(0)
					Prevaler	nce Index =	B/A =		4.00	
					Hydrophyt	ic Vegetat	ion Indica	tors:		
					1 - Ra	pid Test fo	r Hydroph	ytic Ve	getation	
					2 - Do	minance T	est if >50%	6		
					3 - Pre	evalence In	dex is $\leq 3$ .	0		
						orphologica narks or or		•		porting data
					Proble	ematic Hyd	lrophytic \	′egetat	ion (Explai	n)
					Indicators of present, unle					ist be
					Hydrophyt Vegetatior Present?	า	es	No	x	
Remarks:										

					document the ind		innin the at	osence of indicato	
Depth	Matr	rix			Redox Fea	tures			
(inches)	Color:	%		Coloi	r: %	Type:	Loc:	Texture:	Remarks:
0-10	10YR 2/2	100	0%					Silty Clay	
10-20	10YR 3/2	100	0%					Clay	
Type: C=Con	centration, D=I	Depletion,	RM=Re	duced M	atrix, CS=Covered o	or Coated Sar	nd Grains	Loca	ation: PL=Pore Lining, M=Matrix
Hydric Soil Ir	ndicators: (App	licable to	all LRRs	, unless o	otherwise noted.)			Indicators for Pr	oblematic Hydric Soils
Histoso	l (A1)				Sandy Gleyed	d Matrix (S4)		1 cm Muck	(A9) <b>(LRR I, J)</b>
Histic Er	pipedon (A2)				Sandy Redox	(S5)		Coast Prarie	e Redox (A16) <b>(LRR F, G, H)</b>
Black Hi	istic (A3)				Stripped Mat	rix (S6)		Dark Surfac	e (S7) <b>(LRR G)</b>
Hydroge	en Sulfide (A4)				Loamy Muck	y Mineral (F1	L)	High Plains	Depressions (F16)
Stratifie	d Layers (A5)	(LRR F)			Loamy Gleye	d Matrix (F2)		(LRR H outs	ide of MLRA 72 & 73)
1 cm M	uck (A9) <b>(LRR F</b> ,	, G <i>,</i> H)			Depleted Ma	trix (F3)		Reduced Ve	ertic (F18)
Deplete	d Below Dark S	Surface (A1	11)		Redox Dark S	Surface (F6)		Red Parent	Material (TF2)
Thick Da	ark Surface (A1	.2)			Depleted Da	rk Surface (F7	7)	Very Shallow	w Dark Surface (TF12)
Sandy N	/luck Mineral (S	51)			Redox Depre	ssions (F8)		Other (Expla	ain in Remarks)
2.5 cm l	Mucky Peat or	Peat (S2)	(LRR G, I	н)	High PLains [	Depression (F	16)	Indicators of hyd	Irophytic vegetation and wetland
5 cm M	ucky Peat or Pe	eat (S3) <b>(L</b>	RR F)		(MLRA 72 &	73 of LRR H)		hydrology must l problematic.	be present, unless disturbed or
Restrictive L	ayer (if presen	t):							
Type:								Hydric Soil Prese	ent? Yes No X
Depth (ir	nches):							,	
HYDROLOG	GY								
	drology Indicat	ors							
-	cators (minimu		required	: check a	ll that apply)			Seconda	ry Indicators (2 or more required)
	Water (A1)		equireu		Salt Crust (B11)				ace Soil Cracks (B6)
	ter Table (A2)				Aquatic Invertebra	tes (B13)			rsely Vegetated Concave Surface (B8)
Saturatio					Hydrogen Sulfide (				nage Patterns (B10)
	larks (B1)				Dry-Season Water				lized Rhizospheres on Living Roots (C
	t Deposits (B2)				Oxidized Rhizosph		ving Roots (		ere tilled)
	oosits (B3)				(where not tilled)				rfish Burrows (C8)
	t or Crust (B4)				Presence of Reduc	ed Iron (C4)			iration Visible on Aerial Imagery (C9)
Iron Don	osits (B5)				Thin Muck Surface	(C7)		Geo	morphic Position (D2)
non beb	on Visible on A	erial Imag	ery (B7)		Other (Explain in R	emarks)		FAC-	-Neutral Test (D5)
								Fros	t-Heave Hummocks (D7) (LRR F)
Inundati	tained Leaves (	0							
Inundati Water-Si	tained Leaves (	0							
Inundation Water-St Field Observ	tained Leaves ( ations:	0	No	x	Depth (inches):				
Inundation Water-St	tained Leaves ( <b>ations:</b> er Present?	B9)			Depth (inches): Depth (inches):		Wetland	Hydrology Prese	nt? Yes No X
Inundati Water-Si Field Observ Surface Wate Water Table Saturation Pi	tained Leaves ( ations: er Present? Present? resent?	B9) Yes	No	Х			Wetland	Hydrology Prese	nt? Yes <u>No X</u>
Inundation Water-Si Field Observ Surface Water Water Table Saturation Project (includes cap	tained Leaves ( <b>ations:</b> er Present? Present? resent? pillary fringe)	B9) Yes Yes Yes	No No	X X	Depth (inches): Depth (inches):				nt? Yes <u>No X</u>
Inundation Water-St Field Observ Surface Water Water Table Saturation Pr (includes cap Describe Rec	tained Leaves ( <b>ations:</b> er Present? Present? resent? pillary fringe)	B9) Yes Yes Yes	No No	X X	Depth (inches):	revious inspe			nt? Yes <u>No X</u>
Inundation Water-St Field Observ Surface Water Water Table Saturation Pr (includes cap	tained Leaves ( <b>ations:</b> er Present? Present? resent? pillary fringe)	B9) Yes Yes Yes	No No	X X	Depth (inches): Depth (inches):	revious inspe			nt? Yes <u>No X</u>

Project/Site: Parshall Transload Fac	cility	City/Cour	nty:		Makoti/ Ward	Sar	npling Date:	8/27/2015
Applicant/Owner: Ba	arr Engineerin		·		ate: No	rth Sar	npling Point:	DP32W
Investigator(s): A Stegeman			Sec	ction, Tow	nship, Range:	13 ,	152N, 88W	
Landform (hillslope, terrace, etc.):	depression				ave, convex, non			pe (%): <5%
Subregion (LRR): LRR-F		Lat:			Long:			-
Soil Map Unit Name:	C210A-Willia			-		NWI classificati		PEMC
Are climatic/hydrologic conditions on the site ty								
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro							nt? Yes	<u>X</u> No
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro					needed, explain		t fooutroo	
SUMMARY OF FINDINGS – Attach site	-		ing po	Dint loca	lions, transec	ts, importan	t leautres, e	elc.
				ls the Sam	pled Area			
				within a V		Yes X	No	
Wetland Hydrology Present? Yes	X No							
Remarks:								
VEGETATION – Use scientific names of	fplants							
	Absolute %	Dominant	Indica	tor	Deminence T			
Tree Stratum (Plot size: <u>30</u> )	Cover	Species?	Status	5		est Worksheet		
						ominant Specie , FACW, or FAC	•	(A)
1						r of Dominant		(* *)
Sapling/Shrub Stratum (Plot size: 15	)	= Total Cov	ver		Species Acros		2	(B)
	_/					ominant Species		
1					That Are OBL	, FACW, or FAC	100.0	0% (A/B)
Herb Stratum (Plot size: <u>5</u> )		_ = Total Cov	ver					
1. Phalaris arundinacea	50%	Y	FAC	w	Prevalence Ir	ndex Workshee	t:	
2. Typha latifolia	50%	Y	OB		Total % Cover	r of:	Multiply	by:
3. Persicaria amphibia	5%	N	OB	BL	OBL species	55%	x 1 55	5.0%
4.					FACW species	50%	x 2 10	0.0%
	105%	= Total Cov	ver		FAC species	0%	x 3 0	.0%
<u>Woody Vine Stratum</u> (Plot size: <u>30</u> )					FACU species	0%	x 4 0	.0%
					UPL species	0%	x 5 0	.0%
1		= Total Cov	ver		Column Total			55% (B)
% Bare Ground in Herb Stratum	=					Index = $B/A =$	1.48	
					Fievalence	muex – b/A –	1.40	,
					Hydrophytic	Vegetation Ind	cators:	
					1 - Rapic	l Test for Hydro	phytic Vegetat	tion
					Y 2 - Domi	nance Test if >5	50%	
					Y 3 - Preva	lence Index is ≤	3.0	
					4 - Morp	hological Adap	tations (Provid	e supporting data
						rks or on a sepe	•	11 0
					Problem	atic Hydrophyt	c Vegetation (	Explain)
					Indicators of hy			gy must be
					present, unless	disturbed or p	oblematic	
					Hydrophytic Vegetation	<b>V</b>	( NI-	
					Present?	Yes )		_
Remarks:								

~	^	
~	"	
_	J	-

Profile Descr	iption: (Describe	to the depth r	needed to doo	ument the ind	icator or con	firm the al	bsence of indicators	
Depth	Matrix			Redox Fea	tures			
(inches)	Color:	%	Color:	%	Type:	Loc:	Texture:	Remarks:
0-5	10YR 2/1	95%	10YR 4/6	5%	C	PL	Clay Loam	
5-20	10YR 4/4	100%	,				Sandy Clay Loam	
	101114/4							
					<u> </u>			
Type: C=Con	centration, D=Dep	oletion, RM=Re	educed Matrix	, CS=Covered c	or Coated San	d Grains	Locatio	n: PL=Pore Lining, M=Matrix
Hydric Soil Ir	dicators: (Applica	able to all LRR	s, unless othe	rwise noted.)			Indicators for Probl	lematic Hydric Soils
Histosol	(A1)			Sandy Gleyed	d Matrix (S4)		1 cm Muck (A9	9)(LRR I, J)
	oipedon (A2)			Sandy Redox	(S5)			edox (A16) <b>(LRR F, G, H)</b>
	stic (A3)			Stripped Mat	rix (S6)		Dark Surface (S	57) <b>(LRR G)</b>
	en Sulfide (A4)			Loamy Muck	y Mineral (F1	)	High Plains De	pressions (F16)
	d Layers (A5) <b>(LR</b>			Loamy Gleye			(LRR H outside	e of MLRA 72 & 73)
	uck (A9) <b>(LRR F, G,</b>			Depleted Ma	trix (F3)		Reduced Vertic	
	d Below Dark Surf	face (A11)	X	Redox Dark S			Red Parent Ma	iterial (TF2)
Thick Da	ark Surface (A12)			Depleted Dar	rk Surface (F7	')		Oark Surface (TF12)
	luck Mineral (S1)			Redox Depre			Other (Explain	
	Mucky Peat or Pea		н)	High PLains D		16)		phytic vegetation and wetland
5 cm Mi	ucky Peat or Peat	(S3) <b>(LRR F)</b>		(MLRA 72 &	73 of LRR H)		hydrology must be problematic.	present, unless disturbed or
Restrictive La	ayer (if present):						problematic.	
Type:							Undefe Cell Buserent	
Depth (ir	nches):						Hydric Soil Present	? Yes <u>X</u> No
Remarks:								
HYDROLOG	6Y							
Wetland Hyd	Irology Indicators							
-	ators (minimum o		d; check all the	at apply)			Secondary	Indicators (2 or more required)
Surface \	Water (A1)		Salt	Crust (B11)			Surface	e Soil Cracks (B6)
High Wa	ter Table (A2)		Aqu	atic Invertebra	tes (B13)		Sparsel	y Vegetated Concave Surface (B8)
Saturatio	on (A3)		Hyd	rogen Sulfide C	Odor (C1)		`	ge Patterns (B10)
Water M	arks (B1)		Dry-	Season Water	Table (C2)		Oxidize	d Rhizospheres on Living Roots (C3
	t Deposits (B2)		Oxio	dized Rhizosphe	eres along Liv	ing Roots	(C3) (where	tilled)
	osits (B3)		•	ere not tilled)				h Burrows (C8)
	t or Crust (B4)			sence of Reduc	. ,			ion Visible on Aerial Imagery (C9)
·	osits (B5)			Muck Surface	. ,			prphic Position (D2)
	on Visible on Aeria		)Oth	er (Explain in R	emarks)			eutral Test (D5)
water-st	ained Leaves (B9)						Frost-H	leave Hummocks (D7) (LRR F)
Field Observ								
Surface Wate	er Present? Yo	es No	X Dep	th (inches):				
Water Table	Present? Y	es No	X Dep	th (inches):		Wetland	d Hydrology Present?	Yes X No
Saturation Pr (includes cap		es No	X Dep	th (inches):				
	orded Data (strea	m guage, mon	itoring well. a	erial photos, p	revious inspe	ctions), if a	available:	
Remarks:		5 - 6 - 7 5	<u> </u>	'' h.		- // ··· •		

Project/Site: Parshall Transload Fac	cility	City/Cou	unty:	1	Makoti/ Ward	Sa	ampling Da	ite: 8	3/27/2015
	, arr Engineerir			Sta			ampling Po		DP33U
Investigator(s): A Stegeman	& M Keller		Sec	tion, Town	ship, Range:	13	, 152N, 88	W	
Landform (hillslope, terrace, etc.):	depression		Local re	elief (conca	ve, convex, nor	ne): I	None	Slope (%	): <5%
Subregion (LRR): LRR-F		Lat:			Long:			Datum:	NAD83
Soil Map Unit Name:	C210A-Willia					NWI classifica			MC
Are climatic/hydrologic conditions on the site ty					No(	•		-	
Are Vegetation Yes , Soil No , or Hydro							sent? Yes	5 <u>X</u>	No
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro									
SUMMARY OF FINDINGS – Attach site	•	•	ling po	int locat	ions, transe	cts, importa	nt feauti	res, etc.	
		<u>X</u>		la tha Caus					
Hydric Soil Present? Yes	X No			Is the Sam within a W		Yes	No )	(	
Wetland Hydrology Present? Yes	No	X			ctiuliu.				
Remarks:									
Vegetation is fully removed surrounding wetland									
VEGETATION – Use scientific names of	•	<u> </u>							
Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicat Status		Dominance	Test Workshee	et:		
/					Number of D	ominant Speci	es		
1.					That Are OB	L, FACW, or FA	C:	1	(A)
		= Total Cov	ver			er of Dominant		3	(D)
Sapling/Shrub Stratum (Plot size: 15	_)				Species Acro			3	(B)
1						ominant Specie L, FACW, or FA		33.3%	(A/B)
1		= Total Cov	ver		mat Are Ob		c		(
Herb Stratum (Plot size: <u>5</u> )					Prevalence I	ndex Workshe	et:		
1. Cirsium arvense	25%	Y	FAC	U	Total % Cove	er of:	Mul	tiply by:	
2. Poa pratensis	10%	Y	FAC		OBL species	0%	x 1	0.0%	
3. Phalaris arundinacea	10%	Y	FAC		•				
4. <u>Dalea candida</u>	5%	N	UPI	L	FACW specie			20.0%	
5	50%	= Total Cov			FAC species	0%	x 3	0.0%	
Woody Vine Stratum (Plot size: <u>30</u> )			vei		FACU specie	s <u>35%</u>	x 4	140.0%	
					UPL species	5%	x 5	25.0%	
1					Column Tota	als: 50.0%	6 (A)	185%	(B)
% Bare Ground in Herb Stratum 60.00%		= Total Cov	ver		Prevalenc	e Index = B/A =	:	3.70	
	-			-	Hydrophytic	Vegetation In	dicators		
						•			
						d Test for Hydr		getation	
						inance Test if :			
					3 - Prev	alence Index is	≤ 3.0		
						phological Ada arks or on a sep			porting data
					Problem	natic Hydrophy	rtic Vegeta	tion (Expla	in)
						ydric soil and v s disturbed or			ust be
				-			providinat		
					Hydrophytic Vegetation Present?	Yes	No	x	
					i rescrit:				
Remarks: Soil disturbed by construction surro	ounding wetla	nd		4					

Depth (inches)	Matr				Redox Fe			Texture:		Dom	narks:	
(inches)	Color:	%		Color:	%	Type:	Loc:	Texture:		Ren	narks:	
0-20	10YR 2/1	100	)%					Silt Loam	Soil	disturbe	d almost	no veg
Гуре: C=Cond	centration, D=I	Depletion,	RM=Re	duced Ma	trix, CS=Covered	l or Coated San	d Grains	Loca	tion: PL:	=Pore Lini	ng, M=Mat	rix
Hydric Soil In	dicators: (App	licable to	all LRRs	, unless of	therwise noted.	)		Indicators for Pro	oblemat	ic Hydric	Soils	
Histosol	(A1)				Sandy Gley	ed Matrix (S4)		1 cm Muck (	A9) <b>(LRR</b>	(I, J)		
Histic Ep	oipedon (A2)				Sandy Red	ox (S5)		Coast Prarie	Redox (	(A16) <b>(LRF</b>	₹ F, G, H)	
X Black Hi	stic (A3)			-	Stripped M	atrix (S6)		Dark Surface	e (S7) <b>(L</b>	RR G)		
Hydroge	en Sulfide (A4)			-	Loamy Mu	cky Mineral (F1	)	High Plains [	Depressi	ons (F16)		
Stratifie	d Layers (A5)	(LRR F)		-	Loamy Glev	yed Matrix (F2)		(LRR H outsi	de of M	ILRA 72 &	73)	
1 cm Mı	uck (A9) <b>(LRR F,</b>	G, H)		-	Depleted N	/latrix (F3)		Reduced Ver	rtic (F18	5)		
Deplete	d Below Dark S	Surface (A1	.1)	-	Redox Darl	< Surface (F6)		Red Parent I	Material	(TF2)		
Thick Da	ark Surface (A1	2)		-	Depleted D	ark Surface (F7	)	Very Shallov			12)	
	luck Mineral (S			-	X Redox Dep			X Other (Expla		-		
2.5 cm N	Mucky Peat or	Peat (S2) <b>(</b>	LRR G,	H) _	High PLains	s Depression (F:	16)	Indicators of hydi		-		
5 cm Mu	ucky Peat or Pe	eat (S3) <b>(LF</b>	RR F)		(MLRA 72 a	& 73 of LRR H)		hydrology must b problematic.	e prese	nt, unless	disturbed o	or
Restrictive La	ayer (if presen	t):										
Type:								Hydric Soil Prese	n+7 ·	Voc V	No	
								riguric soli Prese	nur	Yes X	No	
Depth (ir Remarks:	nches):							-				
Depth (ir Remarks: IYDROLOG												
Remarks: IYDROLOG		ors										
Remarks: IYDROLOG Wetland Hyd	SY Irology Indicat		equired	; check all	that apply)			Secondar		itors (2 or	more requ	ired)
Remarks: IYDROLOG Wetland Hyd Primary Indic			equired						y Indica	itors (2 or Cracks (B6	more requ	ired)
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V	SY Irology Indicat		equired	S	that apply) alt Crust (B11)	rates (B13)		Surfa	ry Indica ice Soil (	Cracks (B6		
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V	GY Irology Indicat ators (minimu Vater (A1) ter Table (A2)		equired	S	alt Crust (B11)			SurfaSpars	ry Indica ice Soil ( sely Veg	Cracks (B6	5) oncave Surfa	·
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat	SY Irology Indicat Lators (minimu Nater (A1) ter Table (A2) on (A3)		equired	S A F	alt Crust (B11) Aquatic Inverteb Aydrogen Sulfide	e Odor (C1)		SurfaSparsDrain	ry Indica ace Soil ( sely Veg nage Pat	Cracks (B6 etated Co terns (B10	5) oncave Surfa	ace (B8
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M	SY Irology Indicat Lators (minimu Nater (A1) ter Table (A2) on (A3)		equired	S A F C	alt Crust (B11) Aquatic Inverteb	e Odor (C1) er Table (C2)	ing Roots	Surfa Spars Drair Oxidi	ry Indica ace Soil ( sely Veg nage Pat	Cracks (B6 etated Co terns (B10 zospheres	5) oncave Surfa 0)	ace (B8
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep	<b>SY</b> Irology Indicat cators (minimu Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) posits (B3)		equired	S A F C C C	alt Crust (B11) Aquatic Inverteb Aydrogen Sulfide Dry-Season Wate Dxidized Rhizosp where not tillec	e Odor (C1) er Table (C2) heres along Liv <b>I)</b>	ing Roots	(C3)	ry Indica ice Soil ( sely Veg nage Pat ized Rhi: <b>:re tillec</b> fish Burr	Cracks (B6 etated Co cterns (B10 zospheres <b>1)</b> rows (C8)	5) oncave Surfa 0) 5 on Living F	ace (B8 Roots (C
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sedimen Drift Dep Algal Ma	<b>SY</b> <b>Irology Indicat</b> rators (minimu Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4)		equired	S P F C C ( F	alt Crust (B11) Aquatic Inverteb Aydrogen Sulfide Dry-Season Wate Dxidized Rhizosp <b>where not tillec</b> Presence of Redu	e Odor (C1) er Table (C2) heres along Liv <b>I)</b> uced Iron (C4)	ing Roots	(C3) Surfa Spars Drair Oxidi Crayi Satur Satur	ry Indica ace Soil ( sely Veg nage Pat ized Rhi: <b>cre tillec</b> fish Burr ration V	Cracks (B6 etated Co terns (B10 zospheres 1) rows (C8) isible on A	5) oncave Surfa 0) 5 on Living F Aerial Image	ace (B8 Roots (C
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep	GY drology Indicat vators (minimu Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) rosits (B3) t or Crust (B4) osits (B5)	m of one r		S F C C C ( T	alt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wate Dxidized Rhizosp <b>where not tillec</b> Presence of Redu Thin Muck Surfac	e Odor (C1) er Table (C2) heres along Liv I) uced Iron (C4) ce (C7)	ing Roots	(C3) Surfa Spars Drair Oxidi (C3) (whe Crayl Satur Geor	ry Indica ace Soil ( sely Veg aage Pat ized Rhi <b>sre tillec</b> fish Burr ration V norphic	Cracks (B6 etated Co terns (B10 zospheres <b>1)</b> rows (C8) isible on A Position (	5) oncave Surfa 0) 5 on Living F Aerial Image	ace (B8 Roots (C
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio	GY Irology Indicat ators (minimu Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) t or Crust (B4) osits (B5) on Visible on A	m of one r erial Image		S F C C C ( T	alt Crust (B11) Aquatic Inverteb Aydrogen Sulfide Dry-Season Wate Dxidized Rhizosp <b>where not tillec</b> Presence of Redu	e Odor (C1) er Table (C2) heres along Liv I) uced Iron (C4) ce (C7)	ing Roots	(C3) Surfa Spars Drair Oxidi (C3) (whe Satur Geor FAC-	ry Indica ace Soil ( sely Veg nage Pat ized Rhi re tillec fish Burr ration V norphic Neutral	Cracks (B6 etated Co terns (B10 zospheres i) rows (C8) isible on A Position ( Test (D5)	5) oncave Surfa 0) 5 on Living F Aerial Image (D2)	ace (B8 Roots (C ery (C9)
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water-St	FY Frology Indicat rators (minimu Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) t or Crust (B4) osits (B5) on Visible on A rained Leaves (	m of one r erial Image		S F C C C ( T	alt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wate Dxidized Rhizosp <b>where not tillec</b> Presence of Redu Thin Muck Surfac	e Odor (C1) er Table (C2) heres along Liv I) uced Iron (C4) ce (C7)	ing Roots	(C3) Surfa Spars Drair Oxidi (C3) (whe Satur Geor FAC-	ry Indica ace Soil ( sely Veg nage Pat ized Rhi re tillec fish Burr ration V norphic Neutral	Cracks (B6 etated Co terns (B10 zospheres <b>1)</b> rows (C8) isible on A Position (	5) oncave Surfa 0) 5 on Living F Aerial Image (D2)	ace (B8 Roots (C ery (C9)
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water-St Field Observe	GY Irology Indicat rators (minimu Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) t or Crust (B4) osits (B5) on Visible on A rained Leaves ( ations:	m of one r erial Image B9)	ery (B7)	S A F C C C C C C C C C C C C C	alt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wate Dxidized Rhizosp <b>where not tillec</b> Presence of Redu Thin Muck Surfac Other (Explain in	e Odor (C1) er Table (C2) heres along Liv I) uced Iron (C4) ce (C7)	ing Roots	(C3) Surfa Spars Drair Oxidi (C3) (whe Satur Geor FAC-	ry Indica ace Soil ( sely Veg nage Pat ized Rhi re tillec fish Burr ration V norphic Neutral	Cracks (B6 etated Co terns (B10 zospheres i) rows (C8) isible on A Position ( Test (D5)	5) oncave Surfa 0) 5 on Living F Aerial Image (D2)	ace (B8 Roots (C ery (C9)
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio	GY Irology Indicat rators (minimu Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) t or Crust (B4) osits (B5) on Visible on A rained Leaves ( ations:	erial Image B9) Yes	ery (B7) No	S A C C C C C C C C C C C C C	alt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wate Dxidized Rhizosp <b>where not tillec</b> Presence of Redu Thin Muck Surfac	e Odor (C1) er Table (C2) heres along Liv I) uced Iron (C4) ce (C7)	ing Roots	(C3) Surfa Spars Drair Oxidi (C3) (whe Satur Geor FAC-	ry Indica ace Soil ( sely Veg nage Pat ized Rhi re tillec fish Burr ration V norphic Neutral	Cracks (B6 etated Co terns (B10 zospheres i) rows (C8) isible on A Position ( Test (D5)	5) oncave Surfa 0) 5 on Living F Aerial Image (D2)	ace (B8 Roots (C
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water-St Field Observe	FY Prology Indicat rators (minimu Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on A rained Leaves ( ations: er Present?	m of one r erial Image B9)	ery (B7) No	S A C C C C C C C C C C C C C	alt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wate Dxidized Rhizosp <b>where not tillec</b> Presence of Redu Thin Muck Surfac Other (Explain in	e Odor (C1) er Table (C2) heres along Liv I) uced Iron (C4) ce (C7)		(C3) Surfa Spars Drair Oxidi (C3) (whe Satur Geor FAC-	ry Indica ace Soil ( sely Veg hage Pat ized Rhi: <b>re tillec</b> fish Burn ration V norphic Neutral :-Heave	Cracks (B6 etated Co terns (B10 zospheres i) rows (C8) isible on A Position ( Test (D5)	5) oncave Surfa 0) s on Living F Aerial Image (D2) ks (D7)	ace (B8 Roots (C ery (C9)
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Water-St Field Observa Surface Water Saturation Pr	FY Irology Indicat rators (minimu Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5) on Visible on A rained Leaves ( ations: er Present? Present?	erial Image B9) Yes	ery (B7) No No	S F C C C (f T C T C C	alt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wate Dxidized Rhizosp where not tillec Presence of Redu Thin Muck Surfac Dther (Explain in	e Odor (C1) er Table (C2) heres along Liv I) uced Iron (C4) ce (C7)		(C3) Surfa Spars Drair Oxidi Crayi Satur Geor FAC- Frost	ry Indica ace Soil ( sely Veg hage Pat ized Rhi: <b>re tillec</b> fish Burn ration V norphic Neutral :-Heave	Cracks (B6 etated Co terns (B10 zospheres 1) rows (C8) isible on A Position ( Test (D5) Hummocl	5) oncave Surfa 0) s on Living F Aerial Image (D2) ks (D7)	ace (B8 Roots (( ery (C9) (LRR F)
Remarks: HYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water-St Field Observa Surface Water Field Observa Surface Water Saturation Pr (includes cap	<b>SY</b> <b>Irology Indicat</b> <b>ators</b> (minimu Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B3) t or Crust (B4) osits (B5) on Visible on A cained Leaves ( <b>ations:</b> er Present? Present? illary fringe)	erial Image B9) Yes Yes Yes	ery (B7) No No No	X [	alt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Dry-Season Wate Dxidized Rhizosp <b>where not tillec</b> Presence of Redu Presence of Redu Thin Muck Surfac Dther (Explain in Depth (inches): Depth (inches):	e Odor (C1) er Table (C2) sheres along Liv <b>I)</b> uced Iron (C4) ce (C7) Remarks)	Wetland	C3) Crayi G4 Hydrology Preser	ry Indica ace Soil ( sely Veg hage Pat ized Rhi: <b>re tillec</b> fish Burn ration V norphic Neutral :-Heave	Cracks (B6 etated Co terns (B10 zospheres 1) rows (C8) isible on A Position ( Test (D5) Hummocl	5) oncave Surfa 0) 5 on Living F Aerial Image (D2) ks (D7)	ace (B8 Roots (P ery (C9 (LRR F)

Project/Site: Parshall Transload Fa	icility	City/Cou	unty:		Makoti/ Ward		Samp	ling Dat	e: 8	/27/2015
	arr Engineerir		'			orth		ling Poi		DP34W
	n & M Keller		See	ction, To	ownship, Range:		13,15	2N, 88V	v	
Landform (hillslope, terrace, etc.):	depression		Local r	elief (co	ncave, convex, no	ne):	Conca	ve	Slope (%)	: <5%
Subregion (LRR): LRR-F		Lat:			Long:				Datum:	NAD83
Soil Map Unit Name:		onka silt loa				NWI class				MC
Are climatic/hydrologic conditions on the site t										
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hyd								? Yes	X	No
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hyd					(if needed, explain					
SUMMARY OF FINDINGS – Attach site	-		ling po		cations, transe	cts, imp	ortant	eautro	es, etc.	]
				la tha G	ampled Area					
Hydric Soil Present? Yes					a Wetland?	Yes	X N	0		
Wetland Hydrology Present? Yes	X No					_				
Remarks:										
	<u> </u>									
VEGETATION – Use scientific names o		Dentitie	1							]
Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indica Status		Dominance Number of I					
1					That Are OB				1	(A)
Sapling/Shrub Stratum (Plot size: <u>15</u>	_)	= Total Cov	ver		Total Numb Species Acro				1	(B)
1					Percent of D That Are OB		•	1	.00.0%	(A/B)
Harb Stratum (Dist size: 5		= Total Cov	ver							
<u>Herb Stratum</u> (Plot size: <u>5</u> ) 1. Spartina pectinata	80%	Y	FAC	~w/	Prevalence	Index Wor	ksheet:			
2. Juncus balticus	10%	N	FAC		Total % Cov	er of:		Mult	iply by:	
3. Phalaris arundinacea	10%	N	FAC		OBL species		0%	x 1	0.0%	
4.					FACW speci	es 1	100%	x 2	200.0%	
T	100%	= Total Cov	ver		FAC species		0%	x 3	0.0%	
<u>Woody Vine Stratum</u> (Plot size: <u>30</u> )					FACU specie	es	0%	x 4	0.0%	
					UPL species		0%	x 5	0.0%	
1		= Total Cov	ver					-		(D)
% Bare Ground in Herb Stratum	_				Column Tot		00.0%	(A)	200%	(B)
					Prevalenc	e Index = l	B/A =		2.00	
					Hydrophytic	c Vegetatio	on Indica	tors:		
					1 - Rap	id Test for	Hydroph	ytic Ve	getation	
					Y 2 - Don	ninance Te	st if >509	6		
					Y 3 - Prev					
						rphological arks or on	•	-		porting data
						matic Hydr	•			n)
					Indicators of I present, unles					ist be
					Hydrophytic			,,cinatit	•	
					Vegetation Present?	Ye	s <u>X</u>	_No		
Remarks:										

Depth Matrix		ix			Redox Fea	itures			
(inches)	Color:	%	% Color: % Type:				Loc:	Texture:	Remarks:
0-20	N 2.5/	959	%	10YR 3/3	5%	C	PL	Loam	
Type: C=Con	centration, D=[	Depletion,	RM=Rec	luced Matrix,	CS=Covered o	or Coated Sand	d Grains	Locati	on: PL=Pore Lining, M=Matrix
Hvdric Soil Ir	dicators: (App	licable to a	all LRRs.	unless other	vise noted.)			Indicators for Pro	blematic Hydric Soils
, Histosol			,		Sandy Gleye	d Matrix (S4)		1 cm Muck (A	•
	ipedon (A2)				Sandy Redox				Redox (A16) <b>(LRR F, G, H)</b>
Black Hi					Stripped Mat			Dark Surface	
	n Sulfide (A4)					y Mineral (F1)			epressions (F16)
	d Layers (A5)	(LRR F)			-	d Matrix (F2)			le of MLRA 72 & 73)
	uck (A9) <b>(LRR F,</b>				Depleted Ma			Reduced Vert	ic (F18)
Deplete	d Below Dark S	Surface (A1	.1)	Х	Redox Dark S	Surface (F6)		Red Parent N	laterial (TF2)
Thick Da	rk Surface (A1	2)			Depleted Da	rk Surface (F7)		Very Shallow	Dark Surface (TF12)
Sandy N	luck Mineral (S	51)			Redox Depre	essions (F8)		Other (Explai	n in Remarks)
2.5 cm l	/lucky Peat or I	Peat (S2) <b>(</b> I	LRR G, H	i)	High PLains [	Depression (F1	.6)	Indicators of hydro	ophytic vegetation and wetland
5 cm Mi	icky Peat or Pe	eat (S3) <b>(LF</b>	RR F)		(MLRA 72 &	73 of LRR H)		hydrology must be problematic.	e present, unless disturbed or
Restrictive La	iyer (if present	t):							
Type:								Hydric Soil Presen	t? Yes X No
Depth (ir	ches):								
Depth (ir Remarks:	ches):								
Remarks:									
Remarks:	Υ	ors							
Remarks: HYDROLOG Wetland Hyd	Y rology Indicat		equired		apply)			·	
Remarks: IYDROLOG Wetland Hyd Primary Indic	Y Irology Indicate ators (minimu		equired		apply) rust (B11)			Secondary	/ Indicators (2 or more required)
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface \	Y rology Indicat ators (minimu Vater (A1)		equired;	Salt C		ites (B13)		<u>Secondary</u> Surfac	v Indicators (2 or more required) se Soil Cracks (B6)
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface \	Y rology Indicat ators (minimu Vater (A1) er Table (A2)		equired;	Salt C	rust (B11)			Secondary Surfac Sparse	/ Indicators (2 or more required)
Remarks: IYDROLOG Wetland Hyd Primary India Surface \ High Wa	Y I <mark>rology Indicat</mark> ators (minimur Vater (A1) rer Table (A2) n (A3)		equired;	Salt C Aqua Hydro	rust (B11) cic Invertebra	Odor (C1)		Secondary Surfac Surfac Sparse Draina	/ Indicators (2 or more required) ce Soil Cracks (B6) ely Vegetated Concave Surface (B8
Remarks: IYDROLOG Wetland Hyc Primary Indic Surface V High Wa Saturatic Water M	Y I <mark>rology Indicat</mark> ators (minimur Vater (A1) rer Table (A2) n (A3)	m of one re	equired;	Salt C Aqua Hydro Dry-S	rust (B11) tic Invertebra ogen Sulfide ( eason Water	Odor (C1)	ng Roots	Secondary Surfac Sparse Draina Oxidiz	/ Indicators (2 or more required) :e Soil Cracks (B6) ely Vegetated Concave Surface (B8 age Patterns (B10)
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep	Y rology Indicate ators (minimur Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) osits (B3)	m of one re	equired	Salt C Aqua Dry-S Oxidi Oxidi	rust (B11) cic Invertebra ogen Sulfide ( eason Water ced Rhizosph re not tilled)	Odor (C1) Table (C2) eres along Livit	ng Roots	Secondary Surfac Sparse Draina Oxidiz [C3) (wher Crayfi	r Indicators (2 or more required) ce Soil Cracks (B6) ely Vegetated Concave Surface (B8 age Patterns (B10) ed Rhizospheres on Living Roots ( re tilled) sh Burrows (C8)
Remarks: IYDROLOG Wetland Hyc Primary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep X Algal Ma	Y rology Indicate ators (minimu Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) osits (B3) : or Crust (B4)	m of one re	equired;	Salt C Aqua Hydro Dry-S Oxidi <b>(whe</b> Prese	rust (B11) cic Invertebra ogen Sulfide ( eason Water ced Rhizosph re not tilled) nce of Reduc	Ddor (C1) Table (C2) eres along Livin red Iron (C4)	ng Roots	Secondary Surfac X Sparse Draina (C3) (wher X Satura	v Indicators (2 or more required) ce Soil Cracks (B6) ely Vegetated Concave Surface (B8 age Patterns (B10) ced Rhizospheres on Living Roots ( re <b>tilled)</b> sh Burrows (C8) ation Visible on Aerial Imagery (C9
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wa' Saturatic Water M Sedimen Drift Dep X Algal Ma Iron Dep	Y rology Indicate ators (minimu Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	m of one ro		Salt C Aqua Hydro Dry-S Oxidi <b>(whe</b> Prese Thin	rust (B11) cic Invertebra ogen Sulfide ( eason Water ced Rhizosph re not tilled) nce of Reduc Muck Surface	Odor (C1) Table (C2) eres along Livin red Iron (C4) (C7)	ng Roots	C3) Cay	r Indicators (2 or more required) ce Soil Cracks (B6) ely Vegetated Concave Surface (B8 age Patterns (B10) ced Rhizospheres on Living Roots ( re tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9 orphic Position (D2)
Remarks: IYDROLOG Wetland Hyc Primary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep X Algal Ma Iron Dep X Inundatio	Y rology Indicate ators (minimu Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) osits (B3) : or Crust (B4)	m of one re erial Image		Salt C Aqua Hydro Dry-S Oxidi <b>(whe</b> Prese Thin	rust (B11) cic Invertebra ogen Sulfide ( eason Water ced Rhizosph re not tilled) nce of Reduc	Odor (C1) Table (C2) eres along Livin red Iron (C4) (C7)	ng Roots	C3) Crayfi X Sparse Oxidiz X Sparse Oxidiz X Satura X Geom FAC-N	y Indicators (2 or more required) ce Soil Cracks (B6) ely Vegetated Concave Surface (B8 age Patterns (B10) ced Rhizospheres on Living Roots ( ce tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9
Remarks: IYDROLOG Wetland Hyc Primary Indic Surface V High War Saturatic Water M Sedimen Drift Dep X Algal Ma Iron Dep X Inundatic Water-St	Y rology Indicate ators (minimu Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Ad ained Leaves (I	m of one re erial Image		Salt C Aqua Hydro Dry-S Oxidi <b>(whe</b> Prese Thin	rust (B11) cic Invertebra ogen Sulfide ( eason Water ced Rhizosph re not tilled) nce of Reduc Muck Surface	Odor (C1) Table (C2) eres along Livin red Iron (C4) (C7)	ng Roots	C3) Crayfi X Sparse Oxidiz X Sparse Oxidiz X Satura X Geom FAC-N	/ Indicators (2 or more required) ce Soil Cracks (B6) ely Vegetated Concave Surface (B8 age Patterns (B10) ced Rhizospheres on Living Roots ( <b>e tilled)</b> sh Burrows (C8) ation Visible on Aerial Imagery (C9 orphic Position (D2) leutral Test (D5)
Remarks: IYDROLOG Wetland Hyd Primary India Surface V High Wa Saturatic Water M Sedimen Drift Dep X Algal Ma Iron Dep X Inundatia Water-St Field Observ	Y rology Indicati ators (minimur Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Ad ained Leaves (I ations:	m of one re erial Image	ery (B7)	Salt C Aqua Hydru Dry-S Oxidi <b>(whe</b> Prese Thin Othe	rust (B11) cic Invertebra ogen Sulfide ( eason Water ced Rhizosph re not tilled) nce of Reduc Muck Surface	Odor (C1) Table (C2) eres along Livin red Iron (C4) (C7)	ng Roots	C3) Crayfi X Sparse Oxidiz X Sparse Oxidiz X Satura X Geom FAC-N	/ Indicators (2 or more required) ce Soil Cracks (B6) ely Vegetated Concave Surface (B8 age Patterns (B10) ced Rhizospheres on Living Roots ( <b>e tilled)</b> sh Burrows (C8) ation Visible on Aerial Imagery (C9 orphic Position (D2) leutral Test (D5)
Remarks: IYDROLOG Wetland Hyc Primary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep X Algal Ma Iron Dep X Inundatio	iY irology Indicate ators (minimu Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Ac ained Leaves (I ations: r Present?	m of one re erial Image B9)	ery (B7) No	X Deptl	rust (B11) cic Invertebra ogen Sulfide ( eason Water ced Rhizosph re not tilled) nce of Reduc Muck Surface (Explain in R	Odor (C1) Table (C2) eres along Livin red Iron (C4) (C7)		C3) C3 C3 C3 C3 C3 C3 C3 C3 C3 C4	v Indicators (2 or more required) ce Soil Cracks (B6) ely Vegetated Concave Surface (B8 age Patterns (B10) ed Rhizospheres on Living Roots ( <b>e tilled)</b> sh Burrows (C8) ation Visible on Aerial Imagery (C9 orphic Position (D2) leutral Test (D5) Heave Hummocks (D7) <b>(LRR F</b> )
Remarks: IYDROLOG Wetland Hyc Primary Indic Surface V High Wa' Saturatic Water M Sedimen Drift Dep X Algal Ma Iron Dep X Inundatic Water-St Field Observ Surface Wate	Y rology Indicate ators (minimu Vater (A1) er Table (A2) n (A3) arks (B1) c Deposits (B2) osits (B3) t or Crust (B4) posits (B5) on Visible on Ad ained Leaves (I ations: er Present? Present?	m of one re erial Image B9) Yes	ery (B7) No	X Dept1	rust (B11) cic Invertebra ogen Sulfide ( eason Water ced Rhizosph re not tilled) nce of Reduc Muck Surface (Explain in R	Odor (C1) Table (C2) eres along Livin red Iron (C4) (C7)		C3) Crayfi X Sparse Oxidiz X Sparse Oxidiz X Satura X Geom FAC-N	v Indicators (2 or more required) ce Soil Cracks (B6) ely Vegetated Concave Surface (B8 age Patterns (B10) ed Rhizospheres on Living Roots ( <b>e tilled)</b> sh Burrows (C8) ation Visible on Aerial Imagery (C9 orphic Position (D2) leutral Test (D5) Heave Hummocks (D7) <b>(LRR F</b> )
Remarks: IYDROLOG Wetland Hyc Primary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep X Algal Ma Iron Dep X Inundatic Water-St Field Observ Surface Water Field Observ Surface Water Saturation Pr (includes cap	rology Indicate ators (minimu Vater (A1) er Table (A2) n (A3) arks (B1) to Crust (B4) osits (B3) tor Crust (B4) osits (B5) on Visible on Ad ained Leaves (I ations: er Present? Present?	erial Image B9) Yes Yes Yes	ery (B7) No No	X Deptl	rust (B11) icic Invertebra ogen Sulfide ( eason Water re d Rhizospho re not tilled) nce of Reduc Muck Surface (Explain in R n (inches): n (inches):	Odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7) kemarks)	Wetland	Ca) Secondary Surfac X Sparse Draina Oxidiz (C3) (wher X Satura X Geom FAC-N Frost-	v Indicators (2 or more required) ce Soil Cracks (B6) ely Vegetated Concave Surface (B8 age Patterns (B10) ed Rhizospheres on Living Roots ( <b>e tilled)</b> sh Burrows (C8) ation Visible on Aerial Imagery (C9 orphic Position (D2) leutral Test (D5) Heave Hummocks (D7) <b>(LRR F</b> )

Project/Site: Parshall Transload Fa	cility	City/Cou	inty:		Makoti/ War	d	Sampli	ng Dat	te: 8	3/27/2015
Applicant/Owner: B	arr Engineerir	ng			State:	North	Sampli	ng Poi	nt:	DP35U
Investigator(s): A Stegeman	& M Keller		S	ection, T	ownship, Range:		13 , 152	N, 88V	V	
					oncave, convex, n				Slope (%)	
					Long:				Datum:	
Soil Map Unit Name:		onka silt loa				_	sification:			MC
Are climatic/hydrologic conditions on the site to				-						
Are Vegetation         No         , Soil         No         , or Hydr           Are Vegetation         No         , Soil         No         , or Hydr								Yes	X	NO
SUMMARY OF FINDINGS – Attach site								+r	oc otc	
	-		iing p	Joint 10	cations, trans	ects, imp		autro	es, etc.	
	No			ls tho	Sampled Area					
Hydric Soil Present? Yes	No	<u> </u>			a Wetland?	Yes	No	) <b>x</b>		
Wetland Hydrology Present? Yes	No	<u> </u>				-				
Remarks:										
VEGETATION – Use scientific names o	f plants									
	Absolute %	Dominant		cator	Dominanc	e Test Wor	ksheet:			
Tree Stratum (Plot size: <u>30</u> )	Cover	Species?	Stat	us		f Dominant				
						BL, FACW,	•		1	(A)
1		= Total Cov	vor			ber of Dom				
Sapling/Shrub Stratum (Plot size: <u>15</u>			vei		Species Ac	ross All Stra	ata:		2	(B)
					Percent of	Dominant	Species			
1					That Are C	BL, FACW,	or FAC:		50.0%	(A/B)
Herb Stratum (Plot size: <u>5</u> )		= Total Cov	ver							
1. Bromus inermis	15%	Y	ι	JPL		e Index Wo	rksheet:			
2. Sonchus arvensis	5%	Y		AC	Total % Co	ver of:		Mult	iply by:	
3.				<u> </u>	OBL specie	es	0%	x 1 _	0.0%	_
	20%	= Total Cov	ver		FACW spe	cies	0%	x 2	0.0%	
<u>Woody Vine Stratum</u> (Plot size: <u>30</u> )					FAC specie	S	5%	x 3	15.0%	
					FACU spec	ies	0%	x 4	0.0%	
1	- <u> </u>	= Total Cov	ver		UPL specie		15%	x 5	75.0%	_
% Bare Ground in Herb Stratum 60.00%					Column To			-		(D)
							20.0%	(A)	90%	(B)
					Prevalei	nce Index =	B/A =		4.50	_
					Hydrophy	tic Vegetati	ion Indicate	ors:		
					1 - Ra	pid Test for	r Hydrophy	tic Ve	getation	
						ominance To			-	
						evalence In				
						orphologica narks or or				porting data
					Probl	ematic Hyd	rophytic Ve	egetat	ion (Explai	in)
					Indicators o present, unl					ust be
					Hydrophy				<u> </u>	
					Vegetation Present?	n	es	No	x	
Remarks:										

Profile Descri	ption: (Descr	ibe to the d	lepth ne	eded to doo	ument the ind	licator or conf	irm the a	bsence of in	dicators				
Depth	Mat	rix			Redox Fea	atures							
(inches)	Color:	%		Color:	%	Type:	Loc:	Tex	ture:	R	emarks:		
0-20	10YR 2/1	· · · · · · · · · · · · · · · · · · ·		0001.	/0	Type.		Silty C	lay Loam				
0-20	1016 2/1	100	//0										
									·				
Type: C=Conc	entration, D=	Depletion,	RM=Red	uced Matrix	, CS=Covered o	or Coated San	d Grains		Location:	PL=Pore L	ining, M=	Matrix	
Hydric Soil In	dicators: (Ap	plicable to a	all LRRs,	unless othe	rwise noted.)			Indicators	for Probler	natic Hydı	ric Soils		
Histosol	(A1)				Sandy Gleye	d Matrix (S4)		1 cm	Muck (A9) <b>(I</b>	LRR I, J)			
Histic Ep	ipedon (A2)				Sandy Redox	(S5)		Coast	Prarie Red	ox (A16) <b>(I</b>	.RR F, G, H	H)	
Black His	tic (A3)				Stripped Ma	trix (S6)		Dark	Surface (S7)	(LRR G)			
Hydroge	n Sulfide (A4)				Loamy Muck	y Mineral (F1	)	High	Plains Depre	essions (F1	.6)		
	Layers (A5)					ed Matrix (F2)			H outside o				
	ck (A9) <b>(LRR F</b>				Depleted Ma			Redu	ced Vertic (l	F18)	-		
	Below Dark		1)		 Redox Dark S				arent Mate				
	rk Surface (A		,			rk Surface (F7	)		Shallow Dar		(TF12)		
	uck Mineral (	,			Redox Depre		,		r (Explain in		()		
	lucky Peat or		RR G. H	<u> </u>		Depression (F:	6)		of hydroph		ation and	wetland	ł
	cky Peat or P					73 of LRR H)	,		must be pre				
<b>Restrictive La</b>	yer (if preser	nt):						•					
Type:								Hydric Soi	Drocont?	Yes	No	х	
Depth (in	ches):							Tryunc 301	rresent:	163	NO		
	v												
HYDROLOG													
Wetland Hyd					- + + - )			<b>C</b> -		l'			IN IN
Primary Indica		um of one r	equirea;					56	condary Inc			required	)
Surface W					Crust (B11)	tec (D12)		_	Surface So			Curfaca	(00)
	er Table (A2)				atic Invertebra				Sparsely \	-		Surrace	(B8)
Saturation					rogen Sulfide (					Patterns (	•		- (62
Water Ma		<b>、</b>			Season Water			(62)		Rhizosphe	res on Liv	ing Rooi	.S (C3
	Deposits (B2	)			dized Rhizosph	0	ing Roots	(C3)	(where ti		·0)		
Drift Depo	or Crust (B4)			•	ere not tilled) sence of Reduc				Saturatio	Burrows (C n Visible o		nagery (	(6)
Iron Depo					n Muck Surface	. ,				hic Positic		ind Ber y (	
	n Visible on A	Aerial Image	erv (B7)		er (Explain in R	. ,			FAC-Neut		• •		
	ained Leaves	0		0		(cindi koj		—		ive Humm	,	(LRF	₹ F)
		(23)									e ente (277	(	
Field Observa		Mar	N -	V Dem	th () h )								
Surface Wate	r Present?	Yes			th (inches):								
Water Table F	Present?	Yes			th (inches):		Wetland	d Hydrology	Present?	Yes	No	Х	
Saturation Pre (includes capi		Yes	No	X Dep	th (inches):								
Describe Reco	orded Data (s	tream guag	e, monito	oring well, a	erial photos, p	revious inspe	ctions), if a	available:					
Remarks:													

Project/Site: Parshall Transload Fac	ility City/County:	Makoti/ Wa	ard Sar	npling Date:	8/27/2015
	rr Engineering	State:		npling Point:	DP36W
		ection, Township, Range		152N, 88W	
Landform (hillslope, terrace, etc.):		relief (concave, convex,		icave Slope	(%): <5%
Subregion (LRR): LRR-F		84304 Long:	-101.881635	5 Datum	NAD83
Soil Map Unit Name:	C272A-Hamerly-Tonka comple	ex	NWI classification	on:	PEMa
Are climatic/hydrologic conditions on the site ty	pical for this time of year? Yes	X No	(if no, explain in F	Remarks.)	
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro	ology <u>No</u> significantly distu	rbed? Are "Normal C	ircumstances" prese	nt? Yes X	No
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro	ology <u>No</u> naturally problem	natic? (if needed, exp	olain in Remarks.)		
SUMMARY OF FINDINGS – Attach site	map showing sampling p	oint locations, tran	isects, importan	t feautres, et	с.
Hydrophytic Vegetation Present? Yes	X No				
Hydric Soil Present? Yes	X No	Is the Sampled Area	No. N	N -	
Wetland Hydrology Present? Yes	X No	within a Wetland?	Yes X	_NO	
Remarks:					
VEGETATION – Use scientific names of	Absolute % Dominant Indic	ator			
Tree Stratum (Plot size: <u>30</u> )	Cover Species? Statu	Dominar	nce Test Worksheet:	:	
			of Dominant Species		( • )
1.			OBL, FACW, or FAC:	1	(A)
	= Total Cover		mber of Dominant	1	(B)
Sapling/Shrub Stratum (Plot size: <u>15</u>	.)		Across All Strata:		(B)
1			of Dominant Species OBL, FACW, or FAC:	400.00/	(A/B)
<u>Herb Stratum</u> (Plot size: <u>5</u> )	= Total Cover	Ducuclau	ice Index Worksheet	••	
1. Typha latifolia	100% Y O	BL			
		Total % C	Cover of:	Multiply by	:
2	100% = Total Cover	OBL spec	cies 100%	x 1 100.	0%
<u>Woody Vine Stratum</u> (Plot size: <u>30</u> )		FACW sp	ecies 0%	x 2 0.09	%
		FAC spec	cies 0%	x 3 0.0	%
1	= Total Cover	FACU spe	ecies 0%	x 4 0.0	%
% Bare Ground in Herb Stratum		UPL spec		x 5 0.0	
		Column T		(A) 100	
			ence Index = $B/A =$		
		Preval	ence index = B/A =	1.00	
		Hydroph	ytic Vegetation Indi	cators:	
		1-F	Rapid Test for Hydro	phytic Vegetatio	n
		Y 2-D	Dominance Test if >5	50%	
			Prevalence Index is $\leq$		
		4 - N	Morphological Adapt emarks or on a sepe	tations (Provide	supporting data
			blematic Hydrophyti		plain)
		Indicators	of hydric soil and we nless disturbed or pr	etland hydrology	
		Hydroph Vegetati Present?	on Yos Y		
Remarks:					

Sampling Point: DP36W SOIL Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators Depth Matrix **Redox Features** (inches) **Texture: Remarks:** Color: % % Color: Type: Loc: 10YR 2/1 95% С Loam 0-20 10YR 5/6 5% M Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) **Indicators for Problematic Hydric Soils** Sandy Gleyed Matrix (S4) 1 cm Muck (A9)(LRR I, J) Histosol (A1) Sandy Redox (S5) Coast Prarie Redox (A16) (LRR F, G, H) Histic Epipedon (A2) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Hvdrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) (LRR H outside of MLRA 72 & 73) 1 cm Muck (A9)(LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) X Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Red Parent Material (TF2) Thick Dark Surface (A12) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Sandy Muck Mineral (S1) Redox Depressions (F8) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High PLains Depression (F16) hydrology must be present, unless disturbed or 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) problematic. **Restrictive Layer (if present):** Type: Hydric Soil Present? Yes X No Depth (inches): Remarks: **HYDROLOGY** Wetland Hydrology Indicators Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Surface Soil Cracks (B6) Salt Crust (B11) High Water Table (A2) Sparsely Vegetated Concave Surface (B8) Aquatic Invertebrates (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3) (where tilled) Drift Deposits (B3) (where not tilled) Cravfish Burrows (C8) Х Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) X Geomorphic Position (D2) Iron Deposits (B5) X Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) **Field Observations:** Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No Х Depth (inches): Wetland Hydrology Present? Yes X No No X Saturation Present? Yes Depth (inches): (includes capillary fringe) Describe Recorded Data (stream guage, monitoring well, aerial photos, previous inspections), if available: Remarks:

Project/Site: Parshall Transload Fac	ilitv	City/Cou	inty:		Makoti/ Ward		Sampling	g Date: 8	8/27/2015
	rr Engineerin		' _		State: N	lorth	Sampling		DP37U
Investigator(s): A Stegeman			Se	ection, To	wnship, Range:		L3,152N		
Landform (hillslope, terrace, etc.):	depression		Local	relief (co	ncave, convex, no	one):	Concave	Slope (%)	): <5%
Subregion (LRR): LRR-F		Lat:	47.9	984326	Long:			Datum:	NAD83
						NWI classifi			MA
Are climatic/hydrologic conditions on the site type of the site type of the site type of the site type of the site									
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro								Yes X	No
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro									
SUMMARY OF FINDINGS – Attach site	-		ling p	oint loo	cations, transe	ects, impor	tant fea	utres, etc.	
Hydrophytic Vegetation Present? Yes	No	<u> </u>							
Hydric Soil Present? Yes	No	X			ampled Area a Wetland?	Yes	No	x	
Wetland Hydrology Present? Yes	No	Х		within				<u> </u>	
Remarks:									
VEGETATION – Use scientific names of	-	Deminent	مالمما						
Tree Stratum (Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indic Statu		Dominance	e Test Worksh	eet:		
		•				Dominant Sp			()
1						BL, FACW, or		1	(A)
		= Total Co	ver			per of Domina		3	(B)
Sapling/Shrub Stratum (Plot size: 15	)					oss All Strata:		5	(D)
1						Dominant Spe BL, FACW, or I		33.3%	(A/B)
1		= Total Co	ver			52, 17, 200, 01	//		( ) )
Herb Stratum (Plot size: <u>5</u> )					Prevalence	Index Works	heet:		
1. Sonchus arvensis	25%	Y		AC	Total % Cov	ver of:		Multiply by:	
2. Symphyotrichum ericoides	25%	Y		ACU	OBL species	5 09	/6 X	1 0.0%	_
3. Bromus inermis	20%	Y		JPL	FACW spec			2 0.0%	
<ol> <li>Cirsium arvense</li> <li>Poa pratensis</li> </ol>	15% 15%	<u>N</u>							
	15%	IN	FP	ACU	FAC species			3 75.0%	
6	100%	= Total Co	ver		FACU speci	es <u>55</u>	<u>%</u> x	220.0%	
Woody Vine Stratum (Plot size: <u>30</u> )					UPL species	5 20	% x	5 100.0%	_
					Column Tot	tals: 100	.0% (	A) <u>395%</u>	(B)
1		= Total Co			Prevalen	ce Index = B//	۹ =	3.95	
% Bare Ground in Herb Stratum			ver		Hydrophyti	c Vegetation	Indicator	·c ·	
						0			
						bid Test for Hy		c vegetation	
						minance Test			
					3 - Pre	valence Index	: is ≤ 3.0		
						rphological A harks or on a s	•	ns (Provide sup sheet)	porting data
					Proble	matic Hydrop	hytic Veg	getation (Explai	in)
					Indicators of present, unle			d hydrology mເ matic	ust be
					Hydrophyti Vegetation Present?		N	o <u>X</u>	
Remarks:									

Histosol (A1)       Sandy Gleyed Matrix (S4)         Histic Epipedon (A2)       Sandy Redox (S5)         Black Histic (A3)       Stripped Matrix (S6)         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)         Stratified Layers (A5) (LRR F)       Loamy Gleyed Matrix (F2)         1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F3)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Muck Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)         For Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)         hydrogen       hydrogen         Type:       Type:	Texture:       Remarks:         Loam
0-20       10YR 2/1       100%         Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains         Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       India         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histic Epipedon (A2)       Sandy Gleyed Matrix (S6)         Black Histic (A3)       Stripped Matrix (S6)         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)         Stratified Layers (A5) (LRR F)       Loamy Mucky Mineral (F1)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F3)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Muck Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)         S cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)         Prob	Location: PL=Pore Lining, M=Matrix cators for Problematic Hydric Soils _1 cm Muck (A9)(LRR I, J)
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       India         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histic Epipedon (A2)       Sandy Redox (S5)         Black Histic (A3)       Stripped Matrix (S6)         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)         Stratified Layers (A5)       Loamy Gleyed Matrix (F2)         1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F3)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Muck Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)       India         Type:	cators for Problematic Hydric Soils _1 cm Muck (A9)(LRR I, J)
Histosol (A1)	_1 cm Muck (A9) <b>(LRR I, J)</b>
Histic Epipedon (A2)       Sandy Redox (S5)         Black Histic (A3)       Stripped Matrix (S6)         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)         Stratified Layers (A5) (LRR F)       Loamy Gleyed Matrix (F2)         1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F3)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Muck Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)         Muck Veat or Peat (S3) (LRR F)       Hydrogen Sufface (F7)         Type:	
Histic Epipedon (A2)       Sandy Redox (S5)         Black Histic (A3)       Stripped Matrix (S6)         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)         Stratified Layers (A5) (LRR F)       Loamy Gleyed Matrix (F2)         1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F3)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Muck Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)         Muck Veat or Peat (S3) (LRR F)       Hydrogen Sufface (F7)         Type:	
Black Histic (A3)       Stripped Matrix (S6)         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)         Stratified Layers (A5) (LRR F)       Loamy Gleyed Matrix (F2)         1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F3)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Muck Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)         model       hydrogen         Wetland Hydrology Indicators       Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)	COAST FLATE NEUUX (ALD) (LNK F, G, H)
Stratified Layers (A5) (LRR F)       Loamy Gleyed Matrix (F2)         1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F3)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Muck Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)         Mydre       hydr         prob       Primary Indicators         Primary Indicators (minimum of one required; check all that apply)       Surface Water (A1)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)	Dark Surface (S7) (LRR G)
1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F3)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Muck Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)         Muck Increase       hydr         Probability       Probability         Remarks:       Hyd         VPDROLOGY       Netland Hydrology Indicators         Primary Indicators (minimum of one required; check all that apply)       Surface Water (A1)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)	High Plains Depressions (F16)
Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Muck Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)         Mucky Peat or Peat (S3)       High PLains Depression (F16)         5 cm Mucky Peat or Peat (S3)       (LRR F)         Mucky Peat or Peat (S3)       (LRR F)         Ype:	(LRR H outside of MLRA 72 & 73)
Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Muck Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)       India         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)       hydr         prob       prob       prob         testrictive Layer (if present):       Hydrology       Hydrology         Type:       Hydrology       Hydrology         Depth (inches):       Hydrology Indicators       Hydrology         termarks:       Salt Crust (B11)       Salt Crust (B13)         High Water Table (A2)       Aquatic Invertebrates (B13)       Hydrogen Sulfide Odor (C1)	Reduced Vertic (F18)
Sandy Muck Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)         hydr       prot         Restrictive Layer (if present):         Type:	Red Parent Material (TF2)
2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)       India         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)       hydr         rype:       (MLRA 72 & 73 of LRR H)       hydr         Type:       Hydr       prob         Depth (inches):       Hydr       Hydr         Remarks:       YDROLOGY       Hydrology Indicators         Primary Indicators (minimum of one required; check all that apply)       Salt Crust (B11)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)	Very Shallow Dark Surface (TF12)
S cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) hydr   Restrictive Layer (if present): prob   Type:	Other (Explain in Remarks)
S cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) hydr   Restrictive Layer (if present): prob   Type:	cators of hydrophytic vegetation and wetland
Type:	rology must be present, unless disturbed or plematic.
Depth (inches):     Pyperiod     YDROLOGY     Vetland Hydrology Indicators     rimary Indicators (minimum of one required; check all that apply)     Surface Water (A1)   Salt Crust (B11)   High Water Table (A2)   Aquatic Invertebrates (B13)   Saturation (A3)     Hydrogen Sulfide Odor (C1)	
Depth (inches):     temarks:     YDROLOGY     Vetland Hydrology Indicators   Primary Indicators (minimum of one required; check all that apply)   Surface Water (A1)   High Water Table (A2)   Saturation (A3)     Hydrogen Sulfide Odor (C1)	ric Soil Present? Yes No X
YDROLOGY         YUreland Hydrology Indicators         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)	
Wetland Hydrology Indicators         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)	
Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)	
Surface Water (A1)Salt Crust (B11)High Water Table (A2)Aquatic Invertebrates (B13)Saturation (A3)Hydrogen Sulfide Odor (C1)	Secondary Indicators (2 or more required)
High Water Table (A2)Aquatic Invertebrates (B13)Saturation (A3)Hydrogen Sulfide Odor (C1)	Surface Soil Cracks (B6)
Saturation (A3) Hydrogen Sulfide Odor (C1)	Sparsely Vegetated Concave Surface (B
	Drainage Patterns (B10)
	Oxidized Rhizospheres on Living Roots (
Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)	(where tilled)
Drift Deposits (B3) (where not tilled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4) Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9
Iron Deposits (B5)Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)Other (Explain in Remarks)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Frost-Heave Hummocks (D7) (LRR F
ield Observations:	
Surface Water Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches): Wetland Hydr	
includes equillent fringe)	rology Present? Yes <u>No X</u>
(includes capillary fringe)	rology Present? Yes <u>No X</u>

Project/Site: Parshall Transload	Facility	City/Cou	inty:		Makoti/ Ward		Sam	oling Da	te: 8	8/27/2015
Applicant/Owner:	Barr Engineerir		' _			lorth		oling Poi		DP39W
Investigator(s): A Stegem	an & M Keller	-	Se	ection, Tow	nship, Range:		13,15	2N, 88\	N	
Landform (hillslope, terrace, etc.):	depression		Local r	relief (conc	ave, convex, no	one):	Conc	ave	Slope (%)	): <5%
Subregion (LRR): LRR-F		Lat:	47.9	83013	Long:				Datum:	NAD83
Soil Map Unit Name:	C210A-Willi					NWI class				MC
Are climatic/hydrologic conditions on the site				-						
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hy								t? Yes	X	No
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hy					needed, explai					
SUMMARY OF FINDINGS – Attach si	•	• ·	ling p	oint loca	tions, transe	ects, imp	ortant	feautr	es, etc.	
				la tha Cau						
Hydric Soil Present? Yes	S <u>X</u> No				npled Area Netland?	Yes	х	lo		
Wetland Hydrology Present? Yes	S <u>X</u> No			within a	wettand:					
Remarks:										
VEGETATION – Use scientific names	of plants				1					
Tree Stratum (Plot size: <u>30</u> )	Absolute %	Dominant	Indica		Dominance	Test Work	sheet:			
<u>1166 Stratum</u> (Flot size. <u>30</u> )	Cover	Species?	Statu	15	Number of	Dominant S	Species			
1					That Are O	BL, FACW, d	or FAC:		2	(A)
1		= Total Cov	ver		Total Numb	er of Domi	nant			(5)
Sapling/Shrub Stratum (Plot size: <u>15</u>	)				Species Acr				2	(B)
					Percent of		•		100.0%	(A/B)
1		= Total Cov	ver		That Are OI	BL, FACW, C	or FAC:		100.076	(A) D)
Herb Stratum (Plot size: <u>5</u> )					Prevalence	Index Wor	ksheet:			
1. Typha latifolia	50%	Y	0	BL	Total % Cov			Mult	tiply by:	
2. Phalaris arundinacea	45%	Y	FA	CW						
3. Sonchus arvensis	5%	Ν	FA	AC	OBL species		55%	x 1	55.0%	
4. Rumex occidentalis	5%	Ν	0	BL	FACW spec	ies	45%	x 2	90.0%	_
5					FAC species	;	5%	x 3	15.0%	
Woody Vine Stratum (Plot size: <u>30</u>	<u> </u>	= Total Cov	ver		FACU speci	es	0%	x 4	0.0%	
(Hotoket Jo	_/				UPL species	5	0%	x 5	0.0%	
1					Column Tot	als: 1	05.0%	(A)	160%	(B)
% Bare Ground in Herb Stratum		= Total Cov	ver		Prevalen	ce Index = I	3/A =		1.52	
									1.52	
					Hydrophyti	c Vegetatio	on Indica	tors:		
					1 - Rap	oid Test for	Hydrop	nytic Ve	getation	
					Y 2 - Doi	minance Te	st if >50	%		
					<u>Y</u> 3 - Pre	valence Inc	lex is ≤ 3	.0		
						rphological arks or on				porting data
						matic Hydr				in)
					Indicators of present, unle					ust be
					Hydrophyti			JEIIIdli	L .	
					Vegetation Present?	Ye	s <u>X</u>	_No		
Remarks:										

Depth	Matr	ix			Redox	Feat	tures				
(inches)	Color:	%		Color:	%		Type:	Loc:	Texture:	Remarks:	
0-20	10YR 2/1	95	%	10YR 4/0	5 5	%	С	М	Loam		
Type: C=Con	centration, D=[	Depletion,	RM=Re	duced Matri	ix, CS=Cove	red o	r Coated Sand	d Grains	Locati	on: PL=Pore Lining, M=Matrix	
	dicators: (App								Indicators for Prok	lematic Hydric Soils	
Histoso				, unicos otri			Matrix (S4)		1 cm Muck (A		
	bipedon (A2)			_	Sandy G					edox (A16) <b>(LRR F, G, H)</b>	
	stic (A3)			_	Stripped				Dark Surface (		
	en Sulfide (A4)			_			/ Mineral (F1)			epressions (F16)	
	d Layers (A5)	LRR F)		_			d Matrix (F2)			e of MLRA 72 & 73)	
	uck (A9)(LRR F,				 Deplete				Reduced Vert		
Deplete	d Below Dark S	urface (A1	1)		Redox D	ark S	urface (F6)		Red Parent M	aterial (TF2)	
Thick Da	ark Surface (A1	2)			Deplete	d Dar	k Surface (F7)		Very Shallow	Dark Surface (TF12)	
	luck Mineral (S				X Redox D				Other (Explain	•	
	Mucky Peat or			H)			epression (F1		phytic vegetation and wetland		
5 cm M	ucky Peat or Pe	at (S3) <b>(L</b>	RR F)		(MLRA 7	72 & 7	73 of LRR H)	hydrology must be present, unless disturbed or problematic.			
Restrictive L	ayer (if present	t):							problematic.		
Type:											
Depth (ii	nches):								Hydric Soil Present	t? Yes <u>X</u> No	
Depth (ii Remarks:	nches):									(* Yes <u>X</u> NO	
Remarks:										(* Yes <u>X</u> NO	
Remarks: HYDROLOG	5Y									(* Yes <u>X</u> NO	
Remarks: HYDROLOO Wetland Hyo	GY Irology Indicat				hot apply)						
Remarks: HYDROLOO Wetland Hyd Primary India	<b>5Y</b> Irology Indicat ators (minimu		equired			1)			Secondary	Indicators (2 or more required)	
Remarks: <b>HYDROLOG</b> Wetland Hyd Primary India Surface	<b>5Y</b> <b>Irology Indicat</b> cators (minimu Water (A1)		equired	Sa	lt Crust (B1		res (B13)		Secondary Surfac	Indicators (2 or more required) e Soil Cracks (B6)	
Remarks: <b>HYDROLOG</b> Wetland Hyd Primary India Surface Y High Wa	<b>GY</b> Irology Indicat Sators (minimu Water (A1) ter Table (A2)		equired	Sa Aq	lt Crust (B1: uatic Invert	tebrat			Secondary Surfac Sparse	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8	
Remarks: HYDROLOC Wetland Hyd Primary India Surface V High Wa Saturatio	<b>GY</b> Irology Indicat Sators (minimu Water (A1) ter Table (A2)		equired	Sal Aq Hy	lt Crust (B1	tebrat fide O	dor (C1)		Secondary Surfac Sparse Draina	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8 ge Patterns (B10)	
Remarks: HYDROLOC Wetland Hyd Primary India Surface V High Wa Saturatio Water M	<b>GY</b> Irology Indicat Sators (minimu Water (A1) ter Table (A2) on (A3)		equired	Sa Aq Hy Dr	lt Crust (B1: uatic Invert drogen Sulf y-Season W	tebrat fide O /ater <sup>-</sup>	dor (C1)	ng Roots (	Secondary Surfac Sparse Draina Oxidiz	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8	
Remarks: HYDROLOC Wetland Hyd Primary India Surface V High Wa Saturatio Water M Sedimen Drift Dep	<b>GY</b> <b>Irology Indicat</b> cators (minimu Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3)		equired	Sal Aq Hy Dr Ox Ox	lt Crust (B1: uatic Invert drogen Sulf y-Season W idized Rhize <b>here not til</b>	fide O /ater <sup>-</sup> osphe	dor (C1) Table (C2) res along Livi	ng Roots (	Secondary Surfac Sparse Draina Oxidiz C3) (wher Crayfis	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots ( <b>e tilled)</b> sh Burrows (C8)	
HYDROLOC Wetland Hyd Primary India Surface V High Wa Saturatio Water M Sedimen Drift Deg Algal Ma	<b>GY</b> Arology Indicat cators (minimu Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4)		equired	Sa Aq Hy Dr Ox Ox Pre	lt Crust (B1 uatic Invert drogen Sulf y-Season W idized Rhize <b>here not til</b> esence of R	tebrat fide O /ater osphe lled) educe	dor (C1) Table (C2) eres along Livin ed Iron (C4)	ng Roots (	Secondary Surfac Sparse Draina Oxidiz C3) (wher Crayfis X Satura	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots ( e <b>tilled)</b> sh Burrows (C8) tion Visible on Aerial Imagery (C9	
Remarks: HYDROLOO Wetland Hyu Primary India Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep	GY Arology Indicat Sators (minimus Water (A1) ter Table (A2) on (A3) Harks (B1) t Deposits (B2) t or Sits (B3) t or Crust (B4) osits (B5)	m of one r		Sal Aq Hy Dr Ox Pre Th	It Crust (B1 uatic Invert drogen Sulf y-Season W idized Rhizo <b>here not til</b> esence of R in Muck Su	tebrat fide O /ater osphe lled) educe rface	dor (C1) Table (C2) tres along Livit ed Iron (C4) (C7)	ng Roots (	C3) Secondary Surfac Sparse Draina Oxidiz Cayfis X Satura X Geom	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots ( e tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9 orphic Position (D2)	
Remarks: HYDROLOO Wetland Hyu Primary India Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati	<b>GY</b> Arology Indicat cators (minimu Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4)	m of one r erial Image		Sal Aq Hy Dr Ox Pre Th	lt Crust (B1 uatic Invert drogen Sulf y-Season W idized Rhize <b>here not til</b> esence of R	tebrat fide O /ater osphe lled) educe rface	dor (C1) Table (C2) tres along Livit ed Iron (C4) (C7)	ng Roots (	C3) Secondary Surfac Sparse Draina Oxidiz X Satura X Geom FAC-N	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots ( e <b>tilled)</b> sh Burrows (C8) tion Visible on Aerial Imagery (C9	
Remarks: HYDROLOO Wetland Hyu Primary India Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati	<b>GY</b> <b>Irology Indicat</b> cators (minimur Vater (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Au cained Leaves (1)	m of one r erial Image		Sal Aq Hy Dr Ox Pre Th	It Crust (B1 uatic Invert drogen Sulf y-Season W idized Rhizo <b>here not til</b> esence of R in Muck Su	tebrat fide O /ater osphe lled) educe rface	dor (C1) Table (C2) tres along Livit ed Iron (C4) (C7)	ng Roots (	C3) Secondary Surfac Sparse Draina Oxidiz X Satura X Geom FAC-N	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots ( e tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9 orphic Position (D2) eutral Test (D5)	
Remarks: HYDROLOC Wetland Hyd Primary India Surface V High Wa Saturatia Water N Sedimen Drift Dep Algal Ma Iron Dep Inundati Water-S	GY drology Indicat cators (minimus Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Ac- cained Leaves (B ations:	m of one r erial Image	ery (B7)	Sal Aq Hy Or Ox (w Pre Th Ot	It Crust (B1 uatic Invert drogen Sulf y-Season W idized Rhizo <b>here not til</b> esence of R in Muck Su	tebrat fide O /ater <sup>-</sup> osphe lled) educe rface n in Re	dor (C1) Table (C2) tres along Livit ed Iron (C4) (C7)	ng Roots (	C3) Secondary Surfac Sparse Draina Oxidiz X Satura X Geom FAC-N	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots ( e tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9 orphic Position (D2) eutral Test (D5)	
Remarks: HYDROLOO Wetland Hyu Primary India Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Water-S Field Observ	<b>GY</b> <b>Irology Indicat</b> cators (minimu Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Ac cained Leaves (B ations: er Present?	erial Image 39) Yes	ery (B7) No	Sal Aq Hy Dr Ox Ox Th Ot 	It Crust (B1 uatic Invert drogen Sulf y-Season W idized Rhize here not til esence of R in Muck Sun her (Explair	tebrat fide O /ater <sup>-</sup> osphe lled) educe rface n in Re	dor (C1) Table (C2) tres along Livit ed Iron (C4) (C7)		C3) C3) C3) C3) C3) C3) C3) C4) C4) C4) C4) C4) C4) C4) C4) C4) C4	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots ( <b>e tilled)</b> sh Burrows (C8) tion Visible on Aerial Imagery (C9 orphic Position (D2) eutral Test (D5) Heave Hummocks (D7) <b>(LRR F)</b>	
Remarks: HYDROLOO Wetland Hyd Primary India Surface V High Wa Saturatia Water N Sedimen Drift Dep Algal Ma Iron Dep Inundati Water-S Field Observ Surface Water Saturation P	<b>GY</b> <b>Arology Indicat</b> cators (minimur Vater (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Au cained Leaves (I <b>ations:</b> er Present? Present?	m of one r erial Image 39)	ery (B7) No No	Sal Aq Hy Or Ox (w Pro Th Ot X De	It Crust (B1: uatic Invert drogen Sulf y-Season W idized Rhize here not til esence of R in Muck Sun her (Explair pth (inches	tebrat fide O /ater <sup>-</sup> osphe lled) educe rface n in Re	dor (C1) Table (C2) tres along Livit ed Iron (C4) (C7)		C3) Secondary Surfac Sparse Draina Oxidiz X Satura X Geom FAC-N	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots ( <b>e tilled)</b> sh Burrows (C8) tion Visible on Aerial Imagery (C9 orphic Position (D2) eutral Test (D5) Heave Hummocks (D7) <b>(LRR F)</b>	
Remarks: HYDROLOO Wetland Hyu Primary India Surface V High Wa Saturatio Water N Sedimen Drift Dep Algal Ma Iron Dep Inundati Water-S Field Observ Surface Water Saturation P (includes cap	<b>GY</b> <b>Arology Indicat</b> cators (minimur Vater (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Au cained Leaves (I <b>ations:</b> er Present? Present?	erial Image 39) Yes Yes Yes	ery (B7) No No No	Sal Aq Hy Or Ox (w Pre Th Ot X De X De	It Crust (B1 uatic Invert drogen Sulf y-Season W idized Rhize here not til esence of R in Muck Sun her (Explair pth (inches pth (inches pth (inches	():	dor (C1) Table (C2) eres along Livin ed Iron (C4) (C7) emarks)	Wetland	Secondary Surfac Sparse Draina Oxidiz C3) (wher Crayfis X Satura X Geom FAC-N Frost-I	Indicators (2 or more required) e Soil Cracks (B6) ly Vegetated Concave Surface (B8 ge Patterns (B10) ed Rhizospheres on Living Roots ( <b>e tilled)</b> sh Burrows (C8) tion Visible on Aerial Imagery (C9 orphic Position (D2) eutral Test (D5) Heave Hummocks (D7) <b>(LRR F)</b>	

	Parshall Transloa			unty:	Makoti/ Ward State: Nort		oling Date: oling Point:	8/25/2015
Applicant/Owner: Investigator(s):	A Store	Barr Engineerii man & M Keller	IB	Section	State: Nort Township, Range:		52N, 88W	DP3W
Landform (hillslope, ter	-	depressior			concave, convex, none)			e (%): <5%
Subregion (LRR):	LRR-F				Long:			
Soil Map Unit Name:				lls loams		WI classification		PEMA
Are climatic/hydrologic	conditions on the s					no, explain in Re	emarks.)	
Are Vegetation No								No
Are Vegetation No	, Soil <u>No</u> , or I	Hydrology No	naturally p	oroblematic?	(if needed, explain in	Remarks.)		
SUMMARY OF FINE	DINGS – Attach	site map show	ving samp	ling point	locations, transects	s, important	feautres, et	с.
Hydrophytic Vegetation	n Present? Y	es X No						
Hydric Soil Present?	Y				e Sampled Area			
Wetland Hydrology Pre		es X No		with	in a Wetland?	Yes X I	<u>ا</u> م	
Remarks:								
VEGETATION – Use	scientific name	es of plants						
		Absolute %	Dominant	Indicator		at 14/a rl/ahaat.		
Tree Stratum (Plot size	e: <u>30</u> )	Cover	Species?	Status	Dominance Te			
					Number of Dor	•	2	(A)
1					That Are OBL, I Total Number of			(/ (/
Sapling/Shrub Stratum	(Plot size: <u>15</u>		= Total Co	ver	Species Across		3	(B)
<u>Supring/Sindo Strutum</u>	(11013)20. <u>15</u>	/			Percent of Don			、 /
1.					That Are OBL, F	•	66.7%	(A/B)
			= Total Co	ver	· · · · · · · · · · · · · · · · · · ·	,		
· · · ·	e: <u>5</u> )				Prevalence Ind	ex Worksheet:		
1. Phalaris arundinacea		25%	Y	FACW	Total % Cover of	of:	Multiply by	/:
2. <u>Cirsium arvense</u>		25%	Y	FACU	OBL species	25%	x 1 25.0	0%
3. <u>Hordeum jubatum</u>		25%	Y	FACW	FACW species	50%	x 2 100.	
4. Typha latifolia		10%	N	OBL				
5. Rumex occidentalis		10%	N	OBL	FAC species	0%	x 3 0.0	
6. <u>Persicaria amphibia</u>		5%	N	OBL	FACU species	25%	x 4 100.	.0%
7		100%	= Total Co	vor	UPL species	0%	x 5 0.0	1%
Woody Vine Stratum	(Plot size: <u>30</u>	)		VEI	Column Totals:	100.0%	(A) 225	5% (B)
					Prevalence I	ndex = B/A =	2.25	
1							<u></u>	
% Bare Ground in Herb St	ratum 0.00	)%	= Total Co	ver	Hydrophytic V	0		
	<u> </u>	<u>,,,,</u>			1 - Rapid 1	Test for Hydrop	nytic Vegetatic	on
					Y 2 - Domin	ance Test if >50	%	
					Y 3 - Prevale	ence Index is ≤ 3	3.0	
					4 - Morph	ological Adapta	tions (Provide	supporting data
						s or on a sepera	•	
					Problema	tic Hydrophytic	Vegetation (E)	(plain)
					Indicators of hyd			y must be
					present, unless c	iisturbed or pro	DIEITIATIC	
					Hydrophytic			
					Vegetation Procent2	Yes X	No	
					Present?			
Remarks:								
nemarka.								

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_	J	-

	Matrix			Redox Fea	tures			
(inches)	Color:	%	Color:	%	Type:	Loc:	Texture:	Remarks:
0-6	10YR 2/2	95%	10YR 4/4	4 5%	С	М	Clay Loam	
6-20	10YR 3/1	100%					Loamy Sand	
·								
Type: C=Con	centration, D=Dep	letion, RM=R	educed Matr	ix, CS=Covered c	r Coated Sand	l Grains	Location: I	PL=Pore Lining, M=Matrix
Hydric Soil I	ndicators: (Applica	able to all LRR	Rs, unless oth	erwise noted.)			Indicators for Problem	atic Hydric Soils
Histoso	l (A1)			Sandy Gleyed	l Matrix (S4)		1 cm Muck (A9) <b>(L</b>	RR I, J)
Histic E	pipedon (A2)		_	Sandy Redox	(S5)		Coast Prarie Redo	x (A16) <b>(LRR F, G, H)</b>
Black H	istic (A3)		_	Stripped Mat	rix (S6)		Dark Surface (S7)	
	en Sulfide (A4)		_		y Mineral (F1)		High Plains Depre	
	ed Layers (A5) (LR		_	Loamy Gleye			(LRR H outside of	
	uck (A9) <b>(LRR F, G,</b>	-	_	Depleted Ma			Reduced Vertic (F	
	d Below Dark Surf	ace (A11)	_	Redox Dark S			Red Parent Mater	
	ark Surface (A12)		_		k Surface (F7)		Very Shallow Darl	
	Auck Mineral (S1)	+ (62) (100 0		X Redox Depre		<b>c</b> )	Other (Explain in I	
	Mucky Peat or Pea ucky Peat or Peat		, н)	(MLRA 72 &	Pepression (F1 <b>73 of LRR H)</b>	0)	hydrology must be pre	tic vegetation and wetland sent, unless disturbed or
Restrictive L	ayer (if present):						problematic.	
Type:								
/1							Undrie Cail Dresent?	Vec V Ne
Depth (in Remarks:	nches):						Hydric Soil Present?	Yes <u>X</u> No
Depth (in Remarks:							Hydric Soil Present?	Yes <u>X</u> No
Depth (i Remarks: <b>HYDROLO</b>	GY						Hydric Soil Present?	Yes <u>X</u> No
Depth (i Remarks: HYDROLOG Wetland Hyd	GY drology Indicators		d: check all t	hat apply)				
Depth (i Remarks: HYDROLOO Wetland Hyd Primary India	GY drology Indicators cators (minimum c						Secondary Ind	icators (2 or more required)
Depth (i Remarks: HYDROLOG Wetland Hy Primary India	GY drology Indicators cators (minimum c Water (A1)		Sa	lt Crust (B11)	tes (B13)		Secondary Ind	icators (2 or more required) il Cracks (B6)
Depth (i Remarks: HYDROLOG Wetland Hy Primary India	GY drology Indicators cators (minimum o Water (A1) ter Table (A2)		Sa Aq				Secondary Ind Surface So Sparsely V	icators (2 or more required)
Depth (i Remarks: HYDROLOC Wetland Hyd Primary India Surface High Wa Saturatio	GY drology Indicators cators (minimum o Water (A1) ter Table (A2)		Sa Aq Hy	lt Crust (B11) Juatic Invertebra	dor (C1)		Secondary Ind Surface So Sparsely V Drainage F	icators (2 or more required) il Cracks (B6) egetated Concave Surface (B8)
Depth (ii Remarks: HYDROLOC Wetland Hyd Primary India Surface High Wa Saturatio Water M	GY drology Indicators cators (minimum o Water (A1) ter Table (A2) on (A3)		Sa Aq Hy Dr	lt Crust (B11) Juatic Invertebra Vdrogen Sulfide C	)dor (C1) Table (C2)	ng Roots (	Secondary Ind Surface So Sparsely V Drainage F Oxidized R	icators (2 or more required) il Cracks (B6) egetated Concave Surface (B8) Patterns (B10) thizospheres on Living Roots (C
Depth (ii Remarks: HYDROLOO Wetland Hyp Primary India Surface V High Wa Saturatio Water M Sedimer Drift Dep	GY drology Indicators cators (minimum o Water (A1) ter Table (A2) on (A3) 1arks (B1) 1t Deposits (B2) posits (B3)		Sa Aq Dr Ox Ox (w	lt Crust (B11) juatic Invertebra rdrogen Sulfide C y-Season Water kidized Rhizosphe r <b>here not tilled)</b>	Odor (C1) Table (C2) eres along Livi	ng Roots (	Secondary Ind Surface So Sparsely V Drainage F Oxidized R (Where till Crayfish B	icators (2 or more required) il Cracks (B6) egetated Concave Surface (B8) Patterns (B10) thizospheres on Living Roots (C led) urrows (C8)
Depth (ii Remarks: HYDROLOC Wetland Hyn Primary India Surface V High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) 1arks (B1) 1t Deposits (B2) posits (B3) at or Crust (B4)		Sa Aq Hy Dr Ox Qw Pre	lt Crust (B11) Juatic Invertebra Ardrogen Sulfide C y-Season Water Ardized Rhizospher Ardized Rhizospher Arbere not tilled) esence of Reduce	Odor (C1) Table (C2) eres along Livin ed Iron (C4)	ng Roots (	Secondary Ind Surface So Sparsely V Drainage F Oxidized R (Where till Crayfish B Saturation	icators (2 or more required) il Cracks (B6) egetated Concave Surface (B8) Patterns (B10) thizospheres on Living Roots (C led) urrows (C8) • Visible on Aerial Imagery (C9)
Depth (ii Remarks: HYDROLOO Wetland Hy Primary India Surface V High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) 1arks (B1) 1arks (B1) 1t Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	of one require	Sal Aq Hy Dr Ox Pro Th	It Crust (B11) Juatic Invertebra Vdrogen Sulfide C y-Season Water Kidized Rhizosphe Vhere not tilled) esence of Reduct in Muck Surface	odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7)	ng Roots (	Secondary Ind Surface So Sparsely V Drainage F Oxidized R C3) (where till Crayfish B Saturation X Geomorph	icators (2 or more required) il Cracks (B6) egetated Concave Surface (B8) Patterns (B10) thizospheres on Living Roots (C led) urrows (C8) Visible on Aerial Imagery (C9) hic Position (D2)
Depth (ii Remarks: HYDROLOG Wetland Hyu Primary India Surface Y High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) 1arks (B1) 1arks (B1) 1t Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria	of one require	Sal Aq Hy Dr Ox Pro Th	lt Crust (B11) Juatic Invertebra Ardrogen Sulfide C y-Season Water Ardized Rhizospher Ardized Rhizospher Arbere not tilled) esence of Reduce	odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7)	ng Roots (	Secondary Ind Surface So Sparsely V Drainage F Oxidized R Crayfish B Saturation X Geomorph FAC-Neutr	icators (2 or more required) il Cracks (B6) egetated Concave Surface (B8) Patterns (B10) thizospheres on Living Roots (C led) urrows (C8) I Visible on Aerial Imagery (C9) hic Position (D2) ral Test (D5)
Depth (ii Remarks: HYDROLOG Wetland Hyu Primary India Surface Y High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) 1arks (B1) 1arks (B1) 1t Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	of one require	Sal Aq Hy Dr Ox Pro Th	It Crust (B11) Juatic Invertebra Vdrogen Sulfide C y-Season Water Kidized Rhizosphe Vhere not tilled) esence of Reduct in Muck Surface	odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7)	ng Roots (	Secondary Ind Surface So Sparsely V Drainage F Oxidized R Crayfish B Saturation X Geomorph FAC-Neutr	icators (2 or more required) il Cracks (B6) egetated Concave Surface (B8) Patterns (B10) thizospheres on Living Roots (C led) urrows (C8) Visible on Aerial Imagery (C9) hic Position (D2)
Depth (ii Remarks: HYDROLOO Wetland Hy Primary India Surface V High Wa Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati X Water-S Field Observ	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) 1arks (B1) 1arks (B1) 1arks (B2) oosits (B3) at or Crust (B4) oosits (B5) on Visible on Aeria tained Leaves (B9) rations:	of one require	Sal Aq Hy Dr Ox Pro Th	It Crust (B11) Juatic Invertebra Vdrogen Sulfide C y-Season Water Kidized Rhizosphe Vhere not tilled) esence of Reduct in Muck Surface	odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7)	ng Roots (	Secondary Ind Surface So Sparsely V Drainage F Oxidized R Crayfish B Saturation X Geomorph FAC-Neutr	icators (2 or more required) il Cracks (B6) egetated Concave Surface (B8) Patterns (B10) thizospheres on Living Roots (C led) urrows (C8) I Visible on Aerial Imagery (C9) hic Position (D2) ral Test (D5)
Depth (ii Remarks: HYDROLOC Wetland Hyp Primary India Surface V High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati X Water-S	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) 1arks (B1) 1t Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) on Visible on Aeria tained Leaves (B9)	of one require	Sal Aq Dr Ox Ox Th Ot	It Crust (B11) Juatic Invertebra Vdrogen Sulfide C y-Season Water Kidized Rhizosphe Vhere not tilled) esence of Reduct in Muck Surface	odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7)	ng Roots (	Secondary Ind Surface So Sparsely V Drainage F Oxidized R Crayfish B Saturation X Geomorph FAC-Neutr	icators (2 or more required) il Cracks (B6) egetated Concave Surface (B8) Patterns (B10) thizospheres on Living Roots (C led) urrows (C8) I Visible on Aerial Imagery (C9) hic Position (D2) ral Test (D5)
Depth (ii Remarks: HYDROLOO Wetland Hy Primary India Surface V High Wa Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati X Water-S Field Observ	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) 1arks (B1) 1t Deposits (B2) posits (B3) 1t or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9) vations: er Present? Ye	of one require	Sai Aq Hy Dr Ox Ox Th Ot	It Crust (B11) Juatic Invertebra Vdrogen Sulfide C y-Season Water Kidized Rhizosphe Vhere not tilled) esence of Reduct in Muck Surface ther (Explain in R	odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7)		Secondary Ind Surface So Sparsely V Drainage F Oxidized R Crayfish B Saturation X Geomorph FAC-Neutr	icators (2 or more required) il Cracks (B6) egetated Concave Surface (B8) Patterns (B10) thizospheres on Living Roots (C led) urrows (C8) I Visible on Aerial Imagery (C9) hic Position (D2) ral Test (D5)
Depth (ii Remarks: HYDROLOO Wetland Hyd Primary India Surface V High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati X Water-S Field Observ Surface Wat	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) farks (B1) farks (B1) for Crust (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9) rations: er Present? Ye present? Ye	of one require al Imagery (B7 es No	Sai Aq Dr Ox Ox Th Ot Ot Ot De	It Crust (B11) juatic Invertebra vdrogen Sulfide C y-Season Water kidized Rhizosphe vhere not tilled) esence of Reduc in Muck Surface her (Explain in R	odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7)		Secondary Ind Surface So Sparsely V Drainage F Oxidized R (where till Crayfish B Saturation X Geomorph FAC-Neutr Frost-Heav	icators (2 or more required) il Cracks (B6) egetated Concave Surface (B8) Patterns (B10) thizospheres on Living Roots (C <b>led)</b> urrows (C8) Visible on Aerial Imagery (C9) hic Position (D2) ral Test (D5) ve Hummocks (D7) <b>(LRR F)</b>
Depth (ii Remarks: HYDROLOO Wetland Hyd Primary India Surface V High Wa Saturatio Water N Sedimer Drift Dep Algal Ma Iron Dep Inundati X Water-S Field Observ Surface Wat Water Table Saturation P (includes cap	GY drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) farks (B1) farks (B1) for Crust (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria tained Leaves (B9) rations: er Present? Ye present? Ye	al Imagery (B7 es No es No es No es No	Sai Aq Dr Ox Ox Th Th Ot Th Ot Th Ot De De De	It Crust (B11) juatic Invertebra vdrogen Sulfide C y-Season Water kidized Rhizosphe vhere not tilled) esence of Reduct in Muck Surface ther (Explain in R epth (inches): epth (inches): epth (inches):	Odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7) emarks)	Wetland	Secondary Ind Surface So Sparsely V Drainage F Oxidized R Cayfish B Saturation X Geomorph FAC-Neutr Frost-Heav	icators (2 or more required) il Cracks (B6) egetated Concave Surface (B8) Patterns (B10) thizospheres on Living Roots (C <b>led)</b> urrows (C8) Visible on Aerial Imagery (C9) hic Position (D2) ral Test (D5) ve Hummocks (D7) <b>(LRR F)</b>

Project/Site: Parshall Transle	oad Facility	City/Cou	inty:		Makoti/ Ward		Samplin	g Date	e: 8	/27/2015
Applicant/Owner:	, Barr Engineerir		• _			lorth	Samplin	-		DP40U
Investigator(s): A Ste	geman & M Keller	-	Se	ection, Tov	wnship, Range:		13 , 152N	, 88W		
Landform (hillslope, terrace, etc.):	depression		Local	relief (con	cave, convex, no	one):	Concave		Slope (%)	: <5%
Subregion (LRR): LRR	-F	Lat:			Long:			C	Datum:	NAD83
Soil Map Unit Name:	C210A-Willi					NWI classif			PEN	ИС
Are climatic/hydrologic conditions on the										
Are Vegetation <u>No</u> , Soil <u>No</u> , o		-						Yes	<u> </u>	No
Are Vegetation <u>No</u> , Soil <u>No</u> , c					if needed, explai					
SUMMARY OF FINDINGS – Attac			ling p	oint loca	ations, transe	ects, impor	tant fea	autre	s, etc.	
Hydrophytic Vegetation Present?		X		la tha Ca						
Hydric Soil Present?	Yes X No				mpled Area Wetland?	Yes	No	х		
Wetland Hydrology Present?	Yes No	X		within a	wettand:					
Remarks:										
<b>VEGETATION</b> – Use scientific nar	nes of plants									
	Absolute %	Dominant	Indic		Dominance	e Test Worksl	neet:			
Tree Stratum (Plot size: <u>30</u> )	Cover	Species?	Statı	JS	Number of	Dominant Sp	ecies			
						BL, FACW, or			1	(A)
1		= Total Co	ver		Total Numb	per of Domina	ant			
Sapling/Shrub Stratum (Plot size: 15					Species Acr	oss All Strata	:		2	(B)
						Dominant Sp		-	0.00/	( ) ( )
1		= Total Co			That Are O	BL, FACW, or	FAC:	5	0.0%	(A/B)
Herb Stratum (Plot size: <u>5</u> )			vei		Prevalence	Index Works	hoot			
1. Cirsium arvense	45%	Y	FA	ACU				N 4   1		
2. Sonchus arvensis	45%	Y	F.	AC	Total % Cov				oly by:	_
3. Typha latifolia	5%	Ν	0	BL	OBL species	5 _ 5	% ×	1	5.0%	_
4. Hordeum jubatum	5%	Ν	FA	CW	FACW spec	ies 5	% ×	2	10.0%	
5					FAC species	5 <u>45</u>	5% ×	3	135.0%	
Woody Vine Stratum (Plot size: <u>30</u>	100%	= Total Co	ver		FACU speci	es 45	5% ×	4	180.0%	
Woody Vine Stratum (Flot Size. <u>50</u>	)				UPL species	s 0	% ×	3	0.0%	
1					Column To	als: 100	.0% (	A)	330%	(B)
		= Total Co	ver			ce Index = B/		_	3.30	
% Bare Ground in Herb Stratum										_
					Hydrophyt	c Vegetation	Indicato	rs:		
					1 - Rap	oid Test for H	ydrophyti	c Vege	etation	
					2 - Do	minance Test	if >50%			
					3 - Pre	valence Inde	x is ≤ 3.0			
						rphological A harks or on a				porting data
					Proble	matic Hydroj	ohytic Veg	getatic	on (Explaii	n)
					Indicators of present, unle				ology mu	st be
					Hydrophyt			inatic		
					Vegetation Present?	Yes	N	o	<u>x</u>	
Remarks:										

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Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators											
Depth	Mat	rix			Redox	Feat	ures				
(inches)	Color:	%		Color			Type:	Loc:	Тех	ture:	Remarks:
0-10	10YR 2/1				<u> </u>		. ,		[	_oam	_
				1000		0/				ty Clay	
10-20	10YR 4/1	95	70	10YR 3	5/4 J	%	С	M			
Type: C=Con	centration, D=	Depletion,	RM=Re	duced Ma	trix, CS=Cove	red o	r Coated Sand	d Grains		Location:	PL=Pore Lining, M=Matrix
Hydric Soil Ir	dicators: (Ap	plicable to	all LRRs	, unless o	therwise not	ed.)			Indicators	s for Probler	natic Hydric Soils
Histosol	(A1)				Sandy G	leyed	Matrix (S4)		1 cm	Muck (A9) <b>(I</b>	.RR I, J)
	bipedon (A2)				 Sandy Re						ox (A16) <b>(LRR F, G, H)</b>
	stic (A3)				Stripped					Surface (S7)	
Hydroge	en Sulfide (A4)						Mineral (F1)		High	Plains Depre	essions (F16)
	d Layers (A5)					-	Matrix (F2)				f MLRA 72 & 73)
	uck (A9) <b>(LRR F</b>				 Deplete				-	iced Vertic (I	-
	d Below Dark		L1)				urface (F6)		Red	Parent Mate	rial (TF2)
	ark Surface (A				Deplete	d Darl	k Surface (F7)		Very	Shallow Dar	k Surface (TF12)
	luck Mineral (						sions (F8)		Othe	er (Explain in	Remarks)
2.5 cm l	Mucky Peat or	Peat (S2)	LRR G,	Н)	High PLa	ains D	epression (F1	.6)	Indicators	of hydroph	tic vegetation and wetland
5 cm M	ucky Peat or P	eat (S3) <b>(L</b>	RR F)		(MLRA 7	72 & 7	'3 of LRR H)			•	esent, unless disturbed or
Restrictive L	ayer (if preser	a+)·							problema	tic.	
Type:	ayer (ii presei										
Depth (ir	schoc);								Hydric So	il Present?	Yes <u>X</u> No
Remarks:	icites).										
HYDROLOG											
-	Irology Indica								6		
	ators (minimu	um of one r	equired			4 \					licators (2 or more required)
	Water (A1)				Salt Crust (B1:		aa (D12)		—		bil Cracks (B6)
	ter Table (A2)				Aquatic Invert Hydrogen Sulf				_		/egetated Concave Surface (B8) Patterns (B10)
Saturatio					, .				_		. ,
	arks (B1)	1			Dry-Season W		. ,	na Dooto	(C2)		Rhizospheres on Living Roots (C3)
	t Deposits (B2	.)			Oxidized Rhizo	•	res along Livi	ng Rools	(C3)	(where ti	•
	osits (B3) t or Crust (B4)				where not til Presence of Re		d Iron (C4)		_		Surrows (C8) n Visible on Aerial Imagery (C9)
Iron Dep					Thin Muck Sur				_		hic Position (D2)
	on Visible on A	Aerial Imag	erv (B7)		Other (Explain				_		ral Test (D5)
	ained Leaves	0	/ ( /				,				ve Hummocks (D7) (LRR F)
Field Observ	ations										
Surface Wate		Yes	No	х	Depth (inches	):					
Water Table		Yes			Depth (inches	_		\A/a+law	ے داخیلہ برا ام	Drocowt	Voc No V
Saturation Pr		Yes			Depth (inches	_		wettand	d Hydrology	Present	Yes <u>No X</u>
(includes cap					p (mones	,· _					
Describe Rec	orded Data (s	tream guag	e, moni	itoring we	ll, aerial phot	os, pr	evious inspec	tions), if a	available:		
Remarks:											

Project/Site: Parshall Transload I	acility	City/Cou	unty:		Makoti/ Ward	Sai	npling Date:	8/2	7/2015
	Barr Engineerir		' _		State: Nor		npling Point:		P42W
Investigator(s): A Stegem			Se	ection, To	wnship, Range:	13 ,	152N, 88W		
Landform (hillslope, terrace, etc.):	depression	1	Local	relief (con	cave, convex, none	): <u>Co</u> ı	ncave Slo	ope (%):	<5%
Subregion (LRR): LRR-F		Lat:			Long:	-101.87476	2 Da	tum:	NAD83
Soil Map Unit Name:	C210B-Willi					WI classificati		PEMA	.d
Are climatic/hydrologic conditions on the site									
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hy							ent? Yes _	<u> </u>	0
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hy		-			if needed, explain ir	-	+ f	-	
SUMMARY OF FINDINGS – Attach sit	•		ling p		ations, transect	s, importar	it reautres,	etc.	
				la tha Sa	mpled Area				
					Wetland?	Yes X	No		
Wetland Hydrology Present? Yes	X No	. <u></u>							
Remarks:									
VECETATION Lice scientific names	of plants								
VEGETATION – Use scientific names	Absolute %	Dominant	Indic	ator					
Tree Stratum (Plot size: <u>30</u> )	Cover	Species?	Statu		Dominance Te	st Worksheet	:		
					Number of Do	•			
1					That Are OBL,		:1	L (A	<b>^)</b>
Conting/Chrub Stratum / Dist size, 15		= Total Cov	ver		Total Number Species Across		1	L (B	3)
Sapling/Shrub Stratum (Plot size: <u>15</u>	)				Percent of Dor			· (2	- /
1					That Are OBL,	•		.0% (A	ч∕B)
		= Total Cov	ver		,	- ,			
Herb Stratum (Plot size: <u>5</u> )	0.00/	V	5.4	0.11	Prevalence Inc	lex Workshee	t:		
1. Phalaris arundinacea	90%	Y			Total % Cover	of:	Multiply	/ by:	
Cirsium arvense     Sonchus arvensis	<u>5%</u>	N		ACU AC	OBL species	0%	x 1	0.0%	
	5%	N	F/	AL	FACW species	90%	x 2 1	.80.0%	
4	100%	= Total Cov	ver		FAC species	<u> </u>		15.0%	
Woody Vine Stratum (Plot size: <u>30</u>	_)				•				
					FACU species	5%		20.0%	
1		= Total Cov	vor		UPL species	0%		0.0%	
% Bare Ground in Herb Stratum			vei		Column Totals	: 100.0%	(A)	215%	(B)
					Prevalence I	ndex = B/A =	2.1	.5	
					Hydrophytic V	egetation Ind	icators:		
						Test for Hydro		ation	
						ance Test if >!			
						ence Index is s			
						iological Adap ks or on a sepe	-	de suppo	rting data
					Problema	tic Hydrophyt	ic Vegetation	(Explain)	
					Indicators of hyd present, unless of			ogy must	be
					Hydrophytic Vegetation Present?	`	K No		
					Fresent				
Remarks:									

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Depth         Matrix         Redox Features           (inches)         Color:         %         Color:         %         Type:         Loc:         Texture:         Remarks:           0-8         10VR 2/1         100%         Loam         Loam         Loam           8-20         10VR 2/2         90%         10VR 4/6         10%         C         M         Silly Clay           Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains         Location: PL=Pore Lining, M=Matrix, Medications         Location: PL=Pore Lining, M=Matrix, CS=Covered or Coated Sand Grains         Location: PL=Pore Lining, M=Matrix, Medications           Histosol (A1)         Sandy Gleyed Matrix (S4)         I cm Muck (A9)(LRR F, G, H)         Coast Prare Reduced (A1G) (LRR F, G, H)           Back Histic (A3)         Straigfed Layer (A5)         Loam Watrix (F3)         Reduced Vartix (F3)         Reduced Vartix (F3)           1 cm Muck (A9)(LRR F, G, H)         Depleted Matrix (F3)         Reduced Vartix (F3)         Reduced Vartix (F3)         Reduced Vartix (F3)           2 from Muck (Patrix Pet at Pet (S2) (LRR F, G, H)         Depleted Matrix (F3)         Reduced Vartix (F3)         Reduced Vartix (F3)           2 from Muck Pet at Pet (S2) (LRR F, G, H)         Depleted Matrix (F3)         Reduced Vartix (F3)         Reduced Vartix (F3)           2 from M	Depth								osence of indicators	
0-8       10YR 2/1       100%       Losm         8-20       10YR 2/2       90%       10YR 4/6       10%       C       M       Silty Clay         Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains       Location: PL=Pore Lining, M=Matrix         Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils         Histosol (A1)       Sandy Gleyed Matrix (S6)       Dark Surface (S7)       Coast For Froblematic Hydric Soils         Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils       Indicators for Problematic Hydric Soils         Hydrogen Sulfide (A4)       Loarny Mucky Matrix (S6)       Dark Surface (S1)       Red Parent Matrix (S6)         Stratified Layers (A5) (IRR F)       Loarny Mucky Mineral (F1)       High Plains Bepressions (F16)       Indicators of hydrophytic vegetation and vettan hydrology must be present, unless disturbed or problematic.         Stratified Layer Pat or Pat (S2) (IRR G, H)       High Plains Persent(F12)       Other (Eps)alin in Remarks)       Indicators of hydrophytic vegetation and vettan hydrology must be present, unless disturbed or problematic.         Stratified Layer (If present):       High Vater Table (A2)       Aquatt Intervetbrates (B13)       Sparsely Veget Coreacts (B6)         Stratified Layer (S1)       Salt Crust (S11)       Surface V		Matrix	Ľ		Re	dox Featu	res			
8-20       10YR 2/2       90%       10YR 4/6       10%       C       M       Silty Clay         Type: C-Concentration, D-Depletion, RM-Reduced Matrix, CS-Covered or Coated Sand Grains       Location: PL=Pore Lining, M=Matrix         Hydric Soil Indicators: (Applicable to all LRB, unless otherwise noted.)       Indicators for Problematic Hydric Soils         Histos (IA)       Sandy Gleyed Matrix (S6)       Dark Surface (S7)       Coast Praime Redox (A16) (LRR F, G, H)         Back Histo (A3)       Loarny Mucky Mineral (F1)       Lign Plains Depressions (F15)       Indicators of Problematic Hydric Soils         1 on Muck (A9)(LRR F, G, H)       Loarny Gleyed Matrix (F2)       URR Houside of MLRA 72 & 73       IRR Houside of MLRA 72 & 73         1 on Muck Vay(LRR F)       Loarny Gleyed Matrix (F2)       Red Dark Surface (F12)       Thick Dark Surface (F13)       Red Dark Surface (F12)         1 on Muck Vay Peat or Peat (S2)       Red Dark Surface (F13)       Red Dark Surface (F12)       Other (Explain in Remarks)         2 5 on Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)       Depleted Bolow Dark Surface (F12)       Other (Explain in Remarks)         Trype:	(inches)	Color:	%	Co	lor:	%	Type:	Loc:	Texture:	Remarks:
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains       Location: PL=Pore Lining, M=Matrix         Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils         Histic Epigedon (A2)       Sandy Gieyed Matrix (S6)       Coast Prarie Redox (A9 (LRR F, G, H)         Hydrogen Sulfide (A4)       Loarny Mucky Mineral (T1)       High Plains Depressions (F16)         Hydrogen Sulfide (A4)       Loarny Mucky Mineral (T1)       High Plains Depressions (F16)         Stratified Layers (A5)       LRR F, G, H)       Depleted Matrix (F3)       Red Parent Material (TF2)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)       Very Shallow Dark Surface (F7)       Very Shallow Dark Surface (T72)         Sandy Muck Mineral (S1)       Redox Depression (F16)       Indicators of hydrophytic vegetation and wetlan hydrology musch be present, unless disturbed or problematic.         Sourd Water Marks (13)       Redox Over Paet (S3) (LRR F)       (MLRA 72 & 73 of LRR H)       Secondary Indicators (2 or more requires Surface Water (A11)         Surface Water (A11)       Sant Crust (B11)       Secondary Indicators (2 or more requires Surface Water (A11)       Secondary Indicators (2 or more requires Surface Water (A11)       Secondary Indicators (2 or more requires Surface Water (A11)         Surface Water (A11)       Depresent(Water (A12)       Aquatic Invertebrate (B13)       Secondary Indicators (2 or mo	0-8	10YR 2/1	100%						Loam	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains       Location: PL=Pore Lining, M=Matrix         Hydric Soil Indicators: (Applicable to all LRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils         Histic Epigedon (A2)       Sandy Redox (S5)       Coast Prarie Redox (A16) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (S7) (LRR G)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (F2)       (LRR H outside of MLRA 72 & 73)         1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F2)       (LRR H outside of MLRA 72 & 73)         1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F2)       (LRR H outside of MLRA 72 & 73)         1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F2)       (LRR H outside of MLRA 72 & 73)         1 cm Muck (A9)(LRR F, G, H)       Depleted Dark Surface (F7)       Very Shalow Dark Surface (T712)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)       Very Shalow Dark Surface (T712)         Sandy Mucky Neat or Peat (S2) (LRR G, H)       High PLains Depression (F16)       Indicators of hydrophytic vegetation and wetlan hydrology must be present; unless disturbed or problematic.         Type:       Depth (inches):       Red Artyrology Indicators       Sant Crust (B11)       Sartace Soil Cracks (B6)         Hydrogen Suffae (A4)       Hydrogen Suffae (A51)       Sparsely Vegetated Concave Surface	8-20	10YR 2/2	90%	10Y	'R 4/6	10%	С	М	Silty Clay	
Histosol (A1)       Sandy Gleyed Matrix (S4)       Indicators for Problematic Hydric Soils         Histosol (A1)       Sandy Gleyed Matrix (S4)       Coast Prarie Redox (A5) (LRR F, G, H)         Histosol (A2)       Sandy Redox (S5)       Coast Prarie Redox (A5) (LRR F, G, H)         Black Histic (A3)       Stripted Matrix (S6)       Dark Surface (S7) (LRR G)         Stratified Layers (A5) (LRR F)       Loamy Mucky Mineral (F1)       High Phains Depressions (F16)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Reduced Vertic (F18)         Depleted Matrix (F2)       Depleted Dark Surface (F7)       Nergator (S12)         Sondy Muck Mineral (S1)       Redox Depressions (F16)       Red Parent Material (FT2)         S. orm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depressions (F16)       Indicators of hydrophytic vegetation and wetlan         S orm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depressions (F16)       Indicators of hydrophytic vegetation and wetlan         S orm Mucky Peat or Peat (S3) (LRR G, H)       Mydrology Indicators       Hydrology Indicators         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         Hydrology Indicators       Hydrology Indicators       Drains Depresent (C1)       Drain						·				
Histosol (A1)       Sandy Gleved Matrix (S4)       1 cm Muck (A9)(LRR I, J)         Histi Epipedon (A2)       Sandy Redox (S5)       Coast Prarie Redox (A16) (LRR F, G, H)         Black Histi (A3)       Loamy Mucky Mineral (F1)       High Plains Depressions (F16)         Stratified Layers (A5) (LRR F)       Loamy Gleyed Matrix (F2)       LRR H outside of MLRA 72 & 73)         1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F3)       Reduced Vertic (F13)         Depleted Below Dark Surface (A11)       X Redox Depressions (F8)       Indicators of hydrophytic vegetation and wetlan hydrology muck be present, unless disturbed or problematic.         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depression (F16)       Indicators of hydrophytic vegetation and wetlan hydrology muck be present, unless disturbed or problematic.         Restrictive Layer (if present):       Type:       Primary Indicators (Intimum of one required; check all that apply)       Secondary Indicators (2 or more required; Surface NI1)         Surface Water (A1)       Salt Crust (B11)       Sparsey Vegetated Concave Surface (G1)       Dariage Patterns (B10)         Surface Water (A1)       Salt Crust (B11)       Sparsey Vegetated Concave Surface (G2)       Oxdited Rhizospheres along Living Roots (C3)       Oxdited Rhizospheres along Living Roots (C3)         Primary Indicators (Intimum of one required; check all that apply)       Secondary Indicators (2 or more required; theospheres along Living Roots (C3)       Ox	Type: C=Conc	centration, D=De	pletion, RM	=Reduced	Matrix, CS=C	overed or 0	Coated Sand	l Grains	Location: P	L=Pore Lining, M=Matrix
Histic Epipedon (A2)       Sandy Redox (S5)       Coast Prarie Redox (A16) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (S7) (LRR G)         Hydrogen Sulfide (A4)       Loamy Gleyed Matrix (S6)       Dark Surface (S7) (LRR G)         1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F3)       Reduced Vertic (F18)         Depleted Below Dark Surface (A11)       X       Redox Dark Surface (F7)       Very Shallow Dark Surface (F12)         Sandy Muck Mineral (S1)       Redox Depression (F16)       Indicators of hydrophytic vegetation and wethan hydrology must be present, unless disturbed or problematic.         S cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depression (F16)       Indicators of hydrophytic vegetation and wethan hydrology must be present, unless disturbed or problematic.         Restrictive Layer (If present):       Type:       Hydric Soil Present? Yes x no       No         Sufface Water (A11)       Salt Crust (B11)       Secondary Indicators (2 or more required; check all that apply)       Secondary Indicators (2 or more required sufface (B13)       Sparsel Vegetated Concave Surface (B1)         Sufface Water (A12)       Aquatic Invertebrates (B13)       Sparsel Vegetated Concave Surface (B1)       Sparsel Vegetated Concave Surface (B1)         Sufface Water (A13)       Dry-Season Water Table (C2)       Oxidized Rhizospheres anoling Koo       Oxidized Rhizospheres anoling Koo         Suff	Hydric Soil In	dicators: (Applic	cable to all L	.RRs, unles	s otherwise	noted.)			Indicators for Problem	atic Hydric Soils
Hittic Epipedon (A2)       Sandy Redox (S5)       Coast Prarie Redox (A16) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (S7) (LRR G)         Hydrogen Sulfide (A4)       Loamy Oleved Matrix (F2)       URH Protocode Depressions (F16)         Stratfied Layers (A5) (LRR F, G, H)       Depleted Matrix (F3)       Reduced Vertic (F18)         Depleted Below Dark Surface (A11)       X       Redox Dark Surface (F7)       Very Shallow Dark Surface (F12)         Sandy Muck Mineral (S1)       Redox Depressions (F8)       Other (Explain in Remarks)       Indicators of hydrophytic vegetation and wetlan hydrology must be present, unless disturbed or problematic.         Stripped Hydrology Indicators       Frimary Indicators (F17)       Very Shallow Dark Surface (F12)       No         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required; Surface W10)       Secondary Indicators (2 or more required; Surface W10)         Startare Water (A1)       Salt Crust (B11)       Salt Crust (B13)       Sparse W2         High Water Table (A2)       Aquatic Invertebrate (B13)       Sparse Numbers on Uning Root (C3)         Wetrand Hydrology Indicators (B2)       Oxdified Rhizospheres anol Uning Root (C3)       Oxdified Rhizospheres anol Uning Root (C4)         Startare Water (A1)       Doy-Season Water Table (C2)       Oxdified Rhizospheres anol Uning Root (C3)       Oxdified	Histosol	(A1)			Sand	dy Gleyed N	Aatrix (S4)		1 cm Muck (A9) <b>(LF</b>	RR I, J)
Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)       High Plains Depressions (F16)         Stratified Layers (A5) (LRR F)       Loamy Mucky Mineral (F1)       High Plains Depressions (F16)         1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F2)       Reduced Vertic (F18)         Depleted Below Dark Surface (A12)       Depleted Dark Surface (F7)       Very Shallow Dark Surface (TF12)         Sandy Muck Mineral (S1)       Redox Depressions (F8)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depression (F16)       Indicators of hydrophytic vegetation and wetlan hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if present):       Type:	Histic Ep	ipedon (A2)			Sand	dy Redox (S	5)		Coast Prarie Redo	« (A16) <b>(LRR F, G, H)</b>
Stratified Layers (A5) (LRR F)       Loamy Gleyed Matrix (F2)       (LRR H outside of MLRA 72 & 73)         1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F3)       Reduced Vertic (F18)         Depleted Below Dark Surface (A12)       Depleted Dark Surface (F7)       Very Shallow Dark Surface (F7)         Sandy Muck Mineral (S1)       Redox Dark Surface (F7)       Very Shallow Dark Surface (F7)         Sandy Muck Mineral (S1)       Redox Dark Surface (F7)       Other (Explain in Remarks)         5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)       Indicators of hydrophytic vegetation and wetlan hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if present):       Type:       Hydrology must be present?       Yes       X       No         Surface Water (A1)       Salt Crust (B11)       Secondary Indicators (2 or more required; Salt Crust (B11)       Surface Soil Cracks (B6)         HybroloGY       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)       Sparsely Vegetated Concave Surface (S1)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)       Cracks (B6)         Water Mark (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres and Living Roo       Cracks (B6)         Mydrogen Sulfide Odor (C1)       Drainage Patterns (B10)       Cracks (B6)       Cravifish Burrows (C8)	Black His	stic (A3)			Strip	ped Matrix	(S6)		Dark Surface (S7)	(LRR G)
1 cm Muck (A9)(LRR F, G, H)       Depleted Matrix (F3)       Reduced Vertic (F18)         Depleted Below Dark Surface (A11)       X Redox Dark Surface (F7)       Very Shallow Dark Surface (T12)         Sandy Muck Mineral (S1)       Redox Depressions (F8)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)       Indicators of hydrophytic vegetation and wetlan         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)       Hydrology must be present, unless disturbed or problematic.         Restrictive Layer (If present):       Type:       Perimary Indicators of hydrology must be present? Yes X No       Model         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required Surface Soil Cracks (B6)         Hydrology Indicators       Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface Saturation (A3)       Hydrogo Sufface Oor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry. Season Water Table (C2)       Oxidized Rhizospheres along Living Roots (C3)       (where tilled)         Genemoth Deposits (B3)       Charles not filled)       Crayfish Burrows (C8)       Saturation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Fac/Neutral Test (D5)       Fac/Neutral Test (	Hydroge	n Sulfide (A4)			Loar	ny Mucky N	Vineral (F1)		High Plains Depres	sions (F16)
Depleted Below Dark Surface (A11)       X       Redox Dark Surface (F6)       Red Parent Material (TF2)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)       Very Shallow Dark Surface (TF12)         Sandy Muck Mineral (S1)       Redox Depressions (F8)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)       Indicators of hydrophytic vegetation and wetlan hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if present):       Type:       Hydrology must be present, unless disturbed or problematic.         Remarks:       Permarks       Hydric Soil Present? Yes X No       Model         Wetland Hydrology Indicators       Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required Surface Soil Cracks (86)         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required Surface Soil Cracks (86)         Primary Indicators (Mainimum of one required; check all that apply)       Surface Soil Cracks (86)       Surface Soil Cracks (86)         High Water Table (A2)       Aquatic Invertebrates (813)       Sparsely Vegetated Concave Surface Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (18:0)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Root (C3)       (where ttilled)         Presen	Stratified	d Layers (A5) <b>(Li</b>	RR F)		Loar	my Gleyed I	Matrix (F2)		(LRR H outside of	MLRA 72 & 73)
Thick Dark Surface (A12)       Depleted Dark Surface (F7)       Very Shallow Dark Surface (TF12)         Sandy Muck Mineral (S1)       Redox Depressions (F8)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depression (F16)       Indicators of hydrophytic vegetation and wetlan hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if present):       Type:					Dep	leted Matri	x (F3)		Reduced Vertic (F2	18)
Sandy Muck Mineral (S1)       Redox Depressions (F8)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High PLains Depression (F16)       Indicators of hydrophytic vegetation and wetlan hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if present):       Type:       Hydrology must be present, unless disturbed or problematic.         Remarks:       Peth (inches):       Hydrology Indicators         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required; check all that apply)         Primary Indicators (Mart Table (A2)       Aquatic Invertebrates (B13)       Surface Soil Cracks (B6)         High Vater Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface Soil Orcaks (B6)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Root (C3)         Water Marks (B3)       (where not tilled)       Crafkin Burrows (C8)         Mater Stain On Soils (B5)       Thin Muck Surface (C7)       X Geomorphic Position (D2)         X Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAc-Neutral Test (D5)         Water Table Present?       Yes       No       X         Yes       No       X       Depth (inches):       Yes x       No         Indicators (C7)       X Geomorphic	Depleted	d Below Dark Sur	rface (A11)		X Red	ox Dark Sur	face (F6)		Red Parent Materi	al (TF2)
2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	Thick Da	rk Surface (A12)	1		Dep	leted Dark S	Surface (F7)		Very Shallow Dark	Surface (TF12)
5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)       hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if present):	Sandy M	luck Mineral (S1)	)		Red	ox Depressi	ons (F8)		Other (Explain in F	temarks)
Restrictive Layer (if present):	2.5 cm N	/lucky Peat or Pe	eat (S2) <b>(LRR</b>	t G, H)	High	PLains Dep	pression (F1	6)	Indicators of hydrophyt	ic vegetation and wetland
Restrictive Layer (if present):       Type:	5 cm Mu	icky Peat or Peat	t (S3) <b>(LRR F</b>	:)	(ML	RA 72 & 73	of LRR H)			sent, unless disturbed or
Hydric Soil Present?       Yes       X       No         Depth (inches):	Restrictive La	yer (if present):							prosicillatic.	
Depth (inches):	Type:								Hydric Soil Present?	Yes X No
HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required; Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Root         Sediment Deposits (B2)       Oxidized Rhizospheres along Living Roots (C3)       (where tilled)         Drift Deposits (B3)       (where not tilled)       Crayfish Burrows (C8)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       X Saturation Visible on Aerial Imagery (B7)         Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Frost-Heave Hummocks (D7)       (LR         Field Observations:       Surface Water Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No       X       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No       X </td <td>Depth (in</td> <td>ches):</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Depth (in	ches):								
Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required; check all that apply)         Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Root       (where not tilled)         Sediment Deposits (B2)       Oxidized Rhizospheres along Living Roots (C3)       (where not tilled)       Crayfish Burrows (C8)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       X Saturation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Thin Muck Surface (C7)       X Geomorphic Position (D2)       FAc-Neutral Test (D5)         Field Observations:       Surface Water Present?       Yes       No       X Depth (inches):       Wetland Hydrology Present?       Yes       X No         Saturation Present?       Yes       No       X Depth (inches):       Wetland Hydrology Present?       Yes       X No         Saturation Present?       Yes       No       X Depth (inches):       Wetland Hydrology Present?       Yes	HYDROLOG	Ϋ́								
Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Root         Sediment Deposits (B2)       Oxidized Rhizospheres along Living Roots (C3)       (where tilled)         Prift Deposits (B3)       (where not tilled)       Crayfish Burrows (C8)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       X Saturation Visible on Aerial Imagery         Iron Deposits (B5)       Thin Muck Surface (C7)       X Geomorphic Position (D2)         X Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water Table Present?       Yes       No       X         Surface Water Present?       Yes       No       X         Saturation Present?       Yes       No       X       Depth (inches):         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       No       X       Depth (inches):       Mater Stained Leaves (D7)										
High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots         Sediment Deposits (B2)       Oxidized Rhizospheres along Living Roots (C3)       (where tilled)         Drift Deposits (B3)       (where not tilled)       Crayfish Burrows (C8)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       X Saturation Visible on Aerial Imagery (B7)         Iron Deposits (B5)       Thin Muck Surface (C7)       X Geomorphic Position (D2)         X Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water -Stained Leaves (B9)       Frost-Heave Hummocks (D7) (LR         Field Observations:       No       X         Surface Water Present?       Yes       No       X         Saturation Presen			of one reau							
Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Root         Sediment Deposits (B2)       Oxidized Rhizospheres along Living Roots (C3)       (where tilled)         Drift Deposits (B3)       (where not tilled)       Crayfish Burrows (C8)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       X Saturation Visible on Aerial Imagery (B7)         Iron Deposits (B5)       Thin Muck Surface (C7)       X Geomorphic Position (D2)         X Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water -Stained Leaves (B9)       No       X       Depth (inches):         Field Observations:       Surface Water Present?       Yes       No       X       Depth (inches):         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No				lirea; check						
Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Root         Sediment Deposits (B2)       Oxidized Rhizospheres along Living Roots (C3)       (where tilled)         Drift Deposits (B3)       (where not tilled)       Crayfish Burrows (C8)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       X Saturation Visible on Aerial Imagery         Iron Deposits (B5)       Thin Muck Surface (C7)       X Geomorphic Position (D2)         X Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Toppth (inches):       Frost-Heave Hummocks (D7)       (LR         Field Observations:       Surface Water Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No       X				lirea; checi	Salt Crust	(B11)			Surface So	l Cracks (B6)
Sediment Deposits (B2)       Oxidized Rhizospheres along Living Roots (C3)       (where tilled)         Drift Deposits (B3)       (where not tilled)       Crayfish Burrows (C8)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       X Saturation Visible on Aerial Imagery         Iron Deposits (B5)       Thin Muck Surface (C7)       X Geomorphic Position (D2)         X Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Frost-Heave Hummocks (D7)       (LR         Field Observations:       Surface Water Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       No       X       Depth (inches):       Vestion Capillary fringe)	High Wat			lired; check	Salt Crust Aquatic In	(B11) vertebrates			Surface So Sparsely Ve	l Cracks (B6) egetated Concave Surface (B8
Drift Deposits (B3)       (where not tilled)       Crayfish Burrows (C8)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       X Saturation Visible on Aerial Imagery         Iron Deposits (B5)       Thin Muck Surface (C7)       X Geomorphic Position (D2)         X Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Thin Muck Surface (C7)       Frost-Heave Hummocks (D7)       (LR         Field Observations:       Surface Water Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No       No         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No       No         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No       No<	High Wat	n (A3)			Salt Crust Aquatic In Hydrogen	(B11) vertebrates Sulfide Odo	or (C1)		Surface Soi Sparsely Ve Drainage P	l Cracks (B6) egetated Concave Surface (B8 atterns (B10)
Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       X Saturation Visible on Aerial Imagery         Iron Deposits (B5)       Thin Muck Surface (C7)       X Geomorphic Position (D2)         X Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Frost-Heave Hummocks (D7)       (LR         Field Observations:       Surface Water Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No       No         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No       No         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No       No         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No       No         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No	High Wat Saturatio Water Ma	n (A3) arks (B1)			Salt Crust Aquatic In Hydrogen Dry-Seaso	(B11) vertebrates Sulfide Odo n Water Ta	or (C1) ble (C2)		Surface Soi Sparsely Ve Drainage P Oxidized R	l Cracks (B6) egetated Concave Surface (B8 atterns (B10) hizospheres on Living Roots (C
Iron Deposits (B5)       Thin Muck Surface (C7)       X Geomorphic Position (D2)         X Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Frost-Heave Hummocks (D7)       (LR         Field Observations:       Surface Water Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No	High Wat Saturatio Water Ma Sediment	n (A3) arks (B1) : Deposits (B2)		""""""""""""""""""""""""""""""""""""""	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F	(B11) vertebrates Sulfide Odo n Water Ta Rhizosphere	or (C1) ble (C2)	ng Roots (	Surface Soi Sparsely Ve Drainage P Oxidized R C3) (where till	l Cracks (B6) egetated Concave Surface (B8 atterns (B10) hizospheres on Living Roots (C ed)
X       Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       FAC-Neutral Test (D5)         Water-Stained Leaves (B9)       Frost-Heave Hummocks (D7)       (LR         Field Observations:       Surface Water Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No       X         Water Table Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No	High Wat Saturatio Water Ma Sediment	n (A3) arks (B1) Deposits (B2) osits (B3)		""""""""""""""""""""""""""""""""""""""	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where no	(B11) vertebrates Sulfide Odd n Water Ta Rhizosphere ot tilled)	or (C1) ble (C2) es along Livir	ng Roots (	C3) Surface Soi Sparsely Ve Drainage P Oxidized R (where till Crayfish Bu	I Cracks (B6) egetated Concave Surface (B8 atterns (B10) hizospheres on Living Roots (C ed) urrows (C8)
Water-Stained Leaves (B9)       Frost-Heave Hummocks (D7)       (LR         Field Observations:       Surface Water Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No       X         Water Table Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No	High Wat Saturatio Water Mi Sediment Drift Dep Algal Mat	n (A3) arks (B1) : Deposits (B2) osits (B3) t or Crust (B4)		rea; cneci 	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where no Presence	(B11) vertebrates Sulfide Odd n Water Ta Rhizosphere <b>ot tilled)</b> of Reduced	or (C1) ble (C2) es along Livir Iron (C4)	ng Roots (	C3) Surface Soi Sparsely Ve Drainage P Oxidized R C3) <b>(where till</b> Crayfish Bu X Saturation	l Cracks (B6) egetated Concave Surface (B8 atterns (B10) hizospheres on Living Roots (C ed) Irrows (C8) Visible on Aerial Imagery (C9)
Surface Water Present?       Yes       No       X       Depth (inches):	High Wat Saturatio Water M Sediment Drift Dep Algal Mat	n (A3) arks (B1) : Deposits (B2) osits (B3) t or Crust (B4) psits (B5)			Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where no Presence Thin Much	(B11) vertebrates Sulfide Odd n Water Ta Rhizosphere of tilled) of Reduced s Surface (C	or (C1) ble (C2) es along Livir Iron (C4) 7)	ng Roots (	C3) Surface Sol Sparsely Ve Drainage P Oxidized R (where till Cayfish Bu X Saturation X Geomorph	l Cracks (B6) egetated Concave Surface (B8 atterns (B10) hizospheres on Living Roots (C ed) urrows (C8) Visible on Aerial Imagery (C9) ic Position (D2)
Water Table Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present?       Yes       X       No         Saturation Present?       Yes       No       X       Depth (inches):	High Wat Saturatio Water Mi Sediment Drift Dep Algal Mat Iron Depo X Inundatic	n (A3) arks (B1) Deposits (B2) osits (B3) t or Crust (B4) psits (B5) on Visible on Aer	ial Imagery (		Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where no Presence Thin Much	(B11) vertebrates Sulfide Odd n Water Ta Rhizosphere of tilled) of Reduced s Surface (C	or (C1) ble (C2) es along Livir Iron (C4) 7)	ng Roots (	C3) Surface Sol Sparsely Ve Drainage P Oxidized R (where till Crayfish Bu X Geomorph FAC-Neutra	I Cracks (B6) egetated Concave Surface (B8 atterns (B10) hizospheres on Living Roots (C ed) urrows (C8) Visible on Aerial Imagery (C9) ic Position (D2) al Test (D5)
Saturation Present?       Yes No _X Depth (inches):          (includes capillary fringe)	High Wat Saturatio Water M Sediment Drift Dep Algal Mat Iron Depo X Inundatic Water-St	n (A3) arks (B1) : Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aer ained Leaves (B9	ial Imagery (		Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where no Presence Thin Much	(B11) vertebrates Sulfide Odd n Water Ta Rhizosphere of tilled) of Reduced s Surface (C	or (C1) ble (C2) es along Livir Iron (C4) 7)	ng Roots (	C3) Surface Sol Sparsely Ve Drainage P Oxidized R (where till Crayfish Bu X Geomorph FAC-Neutra	I Cracks (B6) egetated Concave Surface (B8 atterns (B10) hizospheres on Living Roots (C ed) urrows (C8) Visible on Aerial Imagery (C9) ic Position (D2) al Test (D5)
(includes capillary fringe)	High Wat Saturatio Water M Sediment Drift Dep Algal Mat Iron Depo X Inundatic Water-St. Field Observation	n (A3) arks (B1) Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aer ained Leaves (B9 ations:	rial Imagery ( Ə)	  (B7)	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where no Presence of Thin Muck Other (Exp	(B11) vertebrates Sulfide Odd n Water Ta Rhizosphere <b>ot tilled)</b> of Reduced c Surface (C Dlain in Rem	or (C1) ble (C2) es along Livir Iron (C4) 7)	ng Roots (	C3) Surface Sol Sparsely Ve Drainage P Oxidized R (where till Crayfish Bu X Geomorph FAC-Neutra	I Cracks (B6) egetated Concave Surface (B8 atterns (B10) hizospheres on Living Roots (C ed) urrows (C8) Visible on Aerial Imagery (C9) ic Position (D2) al Test (D5)
	High Wat Saturatio Water M. Sediment Drift Dep Algal Mat Iron Depo X Inundatic Water-St Field Observa Surface Wate	n (A3) arks (B1) : Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aer ained Leaves (B9 ations: or Present?	ial Imagery ( ) Yes	(B7)	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where no Presence of Thin Muck Other (Exp Depth (inc	(B11) vertebrates Sulfide Odd n Water Ta Rhizosphere ot tilled) of Reduced s Surface (C olain in Rem	or (C1) ble (C2) es along Livir Iron (C4) 7)		Surface Soi Sparsely Ve Drainage P Oxidized R (where till Cayfish Bu X Saturation X Geomorph FAC-Neutra Frost-Heav	I Cracks (B6) egetated Concave Surface (B8 atterns (B10) hizospheres on Living Roots (C ed) urrows (C8) Visible on Aerial Imagery (C9) ic Position (D2) al Test (D5) e Hummocks (D7) (LRR F)
שכילה אל המכיר הכילה המנה להרבים המנה להרבים המנוגים המנוגים המנוגים המנוגים המנוגים המנוגים המנוגים המנוגים המ	High Wat Saturatio Water M Sediment Drift Dep Algal Mat Iron Depo X Inundatic Water-St Field Observa Surface Wate Saturation Pr	n (A3) arks (B1) : Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aer ained Leaves (B9 ations: or Present? N esent? N	rial Imagery ( Ə) Yes Yes	(B7) No <u>X</u>	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where no Presence of Thin Muck Other (Exp Depth (ino Depth (ino	(B11) vertebrates Sulfide Odd n Water Ta Rhizosphere <b>ot tilled)</b> of Reduced c Surface (C olain in Rem ches):	or (C1) ble (C2) es along Livir Iron (C4) 7)		Surface Soi Sparsely Ve Drainage P Oxidized R (where till Cayfish Bu X Saturation X Geomorph FAC-Neutra Frost-Heav	I Cracks (B6) egetated Concave Surface (B8 atterns (B10) hizospheres on Living Roots (C ed) urrows (C8) Visible on Aerial Imagery (C9) ic Position (D2) al Test (D5) e Hummocks (D7) (LRR F)
Remarks:	High Wat Saturatio Water M Sediment Drift Dep Algal Mat Iron Depo X Inundatio Water-St Field Observa Surface Wate Water Table I Saturation Prr (includes cap	n (A3) arks (B1) : Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aer ained Leaves (B9 ations: ar Present? Present? Vesent? Vesent?	rial Imagery ( 9) Yes Yes Yes	(B7) No <u>X</u> No <u>X</u> No <u>X</u>	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where no Presence of Thin Muck Other (Exp Depth (ino Depth (ino	(B11) vertebrates Sulfide Odd n Water Ta Rhizosphere <b>ot tilled)</b> of Reduced c Surface (C olain in Rem ches): ches):	or (C1) ble (C2) es along Livir Iron (C4) 7) narks)	Wetland	Surface Soi Sparsely Ve Drainage P Oxidized R (where till Crayfish Bu X Saturation X Geomorph FAC-Neutra Frost-Heav	I Cracks (B6) egetated Concave Surface (B8 atterns (B10) hizospheres on Living Roots (C ed) urrows (C8) Visible on Aerial Imagery (C9) ic Position (D2) al Test (D5) e Hummocks (D7) (LRR F)

Project/Site: Parshall 1	Fransload Fac	ilitv	City/Cou	inty:		Makoti/ War	d	Sam	ling Da	te: 8	/27/2015
Applicant/Owner:		rr Engineerin					North		ling Po		DP43U
Investigator(s):						ownship, Range:			-	-	
Landform (hillslope, terrace, etc.):	_	depression				oncave, convex, n			ave	Slope (%)	: <5%
Subregion (LRR):	LRR-F			47.9	982020	Long:	-102	L.874707		Datum:	NAD83
								assificatior			ЛAd
Are climatic/hydrologic conditions					-		_				
Are Vegetation No , Soil No			-						? Yes	X	No
Are Vegetation <u>No</u> , Soil <u>No</u>						(if needed, expla					
SUMMARY OF FINDINGS – A		•	• ·	ling p	DOINT IO	cations, trans	ects, im	portant	reautr	es, etc.	
Hydrophytic Vegetation Present?		No									
Hydric Soil Present?		No				Sampled Area a Wetland?	Yes	r	lo X	(	
Wetland Hydrology Present?	Yes	No	Х								
Remarks:											
VEGETATION – Use scientific	c names of	plants									
		Absolute %	Dominant	India	cator	Dominanc	e Test Wo	rksheet			
Tree Stratum (Plot size: <u>30</u>	)	Cover	Species?	State	us	Number of					
						That Are O		•		1	(A)
1			= Total Cov	ver		Total Num	ber of Do	ninant			
Sapling/Shrub Stratum (Plot size:	15	)				Species Ac	ross All St	rata:		2	(B)
						Percent of				50.00/	(4 (5)
1			- Total Co	vor		That Are C	BL, FACW	, or FAC:		50.0%	(A/B)
Herb Stratum (Plot size: <u>5</u>	)			VEI		Prevalence	e Index W	orksheet:			
1. Sonchus arvensis		60%	Y	F	AC			orksheet.	N 4 I	tiol. b. a	
2. Cirsium arvense		40%	Y	FÆ	ACU	Total % Co				tiply by:	
3						OBL specie		0%	x 1		
<u>Woody Vine Stratum</u> (Plot size: <u>3</u>	20 \	100%	_ = Total Cov	ver		FACW spee	cies	0%	x 2	0.0%	
Woody vine stratum (Fiot size.	)					FAC specie	es	60%	x 3	180.0%	
1						FACU spec	ies	40%	x 4	160.0%	
% Bare Ground in Herb Stratum			_ = Total Cov	ver		UPL specie	es	0%	x 5	0.0%	
7 bare Ground in Herb Stratum		-				Column To	otals:	100.0%	(A)	340%	(B)
						Prevaler	nce Index	= B/A =		3.40	
						Hydrophyt	tic Vogota	tion Indica	tors		
							0			actation	
								or Hydropi		gelation	
								Test if >50			
								ndex is $\leq 3$			
								cal Adapta on a sepera			porting data
						Probl	ematic Hy	drophytic	Vegetat	tion (Explai	n)
						Indicators of present, unl					ıst be
						Hydrophy Vegetation	tic n	/es	No		
						Present?					
Remarks:											

Depth	Matrix			Redox Fea	itures					
(inches)	Color:	%	Color:	%	Type:	Loc:	Те	xture:	Rem	narks:
0-20	10YR 2/1	100%			- <u> </u>			Loam		
Type: C=Conc	centration, D=Dep	etion, RM=Re	duced Matri	x, CS=Covered o	or Coated Sand	l Grains	,	Location:	PL=Pore Linin	ig, M=Matrix
Hydric Soil In	dicators: (Applica	ble to all LRRs	, unless oth	erwise noted.)			Indicator	s for Problen	natic Hydric S	oils
Histosol	(A1)			Sandy Gleye	d Matrix (S4)		1 cm	n Muck (A9) <b>(I</b>	.RR I <i>,</i> J)	
Histic Ep	oipedon (A2)			Sandy Redox	: (S5)		Coas	st Prarie Redo	ox (A16) <b>(LRR</b>	F, G, H)
Black His	stic (A3)			Stripped Mat	trix (S6)		Dark	Surface (S7)	(LRR G)	
Hydroge	en Sulfide (A4)			Loamy Muck	xy Mineral (F1)		High	Plains Depre	essions (F16)	
Stratified	d Layers (A5) <b>(LRF</b>	≀F)		Loamy Gleye	ed Matrix (F2)		(LRR	H outside o	f MLRA 72 & 1	73)
1 cm Mı	uck (A9) <b>(LRR F, G,</b> I	H)		Depleted Ma	atrix (F3)		Redu	uced Vertic (I	-18)	
Depleted	d Below Dark Surfa	ace (A11)		Redox Dark S	Surface (F6)		Red	Parent Mate	rial (TF2)	
Thick Da	ark Surface (A12)			Depleted Da	rk Surface (F7)		Very	/ Shallow Dar	k Surface (TF:	12)
	1uck Mineral (S1)			Redox Depre				er (Explain in	-	
	Mucky Peat or Pea		H)		Depression (F1	6)				n and wetland
5 cm Mu	ucky Peat or Peat (	S3) <b>(LRR F)</b>		(MLRA 72 &	73 of LRR H)		hydrolog problema		esent, unless o	disturbed or
	ayer (if present):						·			
Type:							Hydric So	oil Present?	Yes	No X
Depth (in Remarks:	nches):									
Remarks:										
Remarks: IYDROLOG	 5Y						·			
Remarks: IYDROLOG Wetland Hyd	jY Irology Indicators								licotore (2 or	
Remarks: IYDROLOG Wetland Hyd Primary Indic	5 <b>Y</b> Irology Indicators ators (minimum o	f one required								more required)
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V	<b>iY</b> Irology Indicators ators (minimum o Vater (A1)	fone required	Sal	t Crust (B11)	otes (B13)			Surface So	oil Cracks (B6)	)
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat	<b>GY</b> Irology Indicators Lators (minimum o Vater (A1) ter Table (A2)	f one required	Sal Aqu	t Crust (B11) uatic Invertebra				Surface So Sparsely V	oil Cracks (B6) /egetated Cor	) ncave Surface (I
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio	<b>SY</b> Irology Indicators Lators (minimum o Water (A1) ter Table (A2) on (A3)	f one required	Sal Aqu Hyd	t Crust (B11) uatic Invertebra drogen Sulfide (	Odor (C1)			Surface So Sparsely V Drainage	oil Cracks (B6) /egetated Cor Patterns (B10	) ncave Surface (I I)
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M	<b>SY</b> Irology Indicators sators (minimum o Water (A1) ter Table (A2) on (A3) arks (B1)	f one required	Sal Aq Hyu Dry	t Crust (B11) uatic Invertebra drogen Sulfide ( y-Season Water	Ddor (C1) Table (C2)	ng Roots	S	Surface So Sparsely N Drainage Oxidized I	oil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres	) ncave Surface (I
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment	<b>iY</b> Irology Indicators cators (minimum o Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2)	f one required	Sal Aqu Hyu Dry Oxi	t Crust (B11) uatic Invertebra drogen Sulfide ( /-Season Water idized Rhizosph	Ddor (C1) Table (C2)	ng Roots (	S	Surface So Sparsely V Drainage Oxidized I (where ti	oil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres <b>lled)</b>	) ncave Surface (I I)
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep	<b>SY</b> Irology Indicators sators (minimum o Water (A1) ter Table (A2) on (A3) arks (B1)	f one required	Sal Aq By Dry Ox <b>(w</b> l	t Crust (B11) uatic Invertebra drogen Sulfide ( y-Season Water	Ddor (C1) Table (C2) eres along Livir	ng Roots	S	Surface So Sparsely V Drainage Oxidized I (where til Crayfish B	oil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres I <b>led)</b> Surrows (C8)	) ncave Surface (I I)
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep	<b>iY</b> <b>Irology Indicators</b> rators (minimum o Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4)	f one required	Sal Aq Byu Oxi Oxi Oxi Pre	t Crust (B11) uatic Invertebra drogen Sulfide ( /-Season Water idized Rhizosph here not tilled)	Odor (C1) Table (C2) eres along Livir ed Iron (C4)	ng Roots	S	Surface So Sparsely V Drainage Oxidized I (where til Crayfish B Saturation	oil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres I <b>led)</b> Surrows (C8)	ncave Surface (I ) on Living Roots erial Imagery (C
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Mat Iron Depo	<b>iY</b> <b>Irology Indicators</b> rators (minimum o Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4)		Sal Aq Hyı Dry Oxi Pre Thi	t Crust (B11) uatic Invertebra drogen Sulfide ( /-Season Water idized Rhizosph here not tilled) ssence of Reduc	Odor (C1) Table (C2) eres along Livir red Iron (C4) (C7)	ng Roots (	S	Surface So Sparsely \ Drainage Oxidized I (where til Crayfish E Saturation Geomorp	bil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres I <b>led)</b> Surrows (C8) n Visible on A	ncave Surface (I ) on Living Roots erial Imagery (C
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Mat Iron Depo Inundatio	Frology Indicators Fators (minimum o Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5)		Sal Aq Hyı Dry Oxi Pre Thi	t Crust (B11) uatic Invertebra drogen Sulfide ( /-Season Water idized Rhizosph here not tilled) esence of Reduc n Muck Surface	Odor (C1) Table (C2) eres along Livir red Iron (C4) (C7)	ng Roots	S	Surface So Sparsely \ Drainage Oxidized I (where til Crayfish B Saturation Geomorp FAC-Neut	bil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres I <b>led)</b> Surrows (C8) n Visible on A hic Position (I	ncave Surface (I ) on Living Roots erial Imagery (C D2)
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Mat Iron Depo Inundatio	<b>iY</b> <b>Irology Indicators</b> rators (minimum o Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Aeria rained Leaves (B9)		Sal Aq Hyı Dry Oxi Pre Thi	t Crust (B11) uatic Invertebra drogen Sulfide ( /-Season Water idized Rhizosph here not tilled) esence of Reduc n Muck Surface	Odor (C1) Table (C2) eres along Livir red Iron (C4) (C7)	ng Roots	S	Surface So Sparsely \ Drainage Oxidized I (where til Crayfish B Saturation Geomorp FAC-Neut	bil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres Iled) Surrows (C8) n Visible on Ar hic Position (I ral Test (D5)	ncave Surface (I ) on Living Roots erial Imagery (C D2)
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Mat Iron Depo Inundatic Water-St	FY Irology Indicators ators (minimum o Nater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) nosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria anned Leaves (B9) ations:		Sal Aq Dry Oxi (wi Pre Thi Oth	t Crust (B11) uatic Invertebra drogen Sulfide ( /-Season Water idized Rhizosph here not tilled) esence of Reduc n Muck Surface	Odor (C1) Table (C2) eres along Livir red Iron (C4) (C7)	ng Roots (	S	Surface So Sparsely \ Drainage Oxidized I (where til Crayfish B Saturation Geomorp FAC-Neut	bil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres Iled) Surrows (C8) n Visible on Ar hic Position (I ral Test (D5)	ncave Surface (I ) on Living Roots erial Imagery (C D2)
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Mat Iron Depo Inundatic Water-Sta	<b>SY</b> <b>Irology Indicators</b> rators (minimum o Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) pon Visible on Aeria rained Leaves (B9) <b>ations:</b> er Present? Ye	l Imagery (B7)	X Deg	t Crust (B11) uatic Invertebra drogen Sulfide ( /-Season Water idized Rhizosph here not tilled) sence of Reduc n Muck Surface her (Explain in R	Odor (C1) Table (C2) eres along Livir red Iron (C4) (C7)		(C3)	Surface So Sparsely \ Drainage Oxidized I <b>(where ti</b> Crayfish E Saturation Geomorp FAC-Neut Frost-Hea	bil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres Iled) Surrows (C8) n Visible on Ar hic Position (I ral Test (D5) ve Hummock	ncave Surface (I ) on Living Roots erial Imagery (C D2) s (D7) <b>(LRR</b>
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Mat Iron Depo Inundatic Water-St Field Observa Surface Wate Water Table I Saturation Pr	iY irology Indicators cators (minimum o Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria cained Leaves (B9) ations: er Present? Ye resent? Ye	I Imagery (B7)	Sal Aq Dry Oxi Oxi Oxi Oxi Thi Oth Oth 	t Crust (B11) uatic Invertebra drogen Sulfide ( /-Season Water idized Rhizosph here not tilled) esence of Reduc n Muck Surface ner (Explain in R	Odor (C1) Table (C2) eres along Livir red Iron (C4) (C7)		S	Surface So Sparsely \ Drainage Oxidized I <b>(where ti</b> Crayfish E Saturation Geomorp FAC-Neut Frost-Hea	bil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres Iled) Surrows (C8) n Visible on Ar hic Position (I ral Test (D5)	ncave Surface (I ) on Living Roots erial Imagery (C D2) s (D7) <b>(LRR</b>
Remarks: IYDROLOG Wetland Hyd Primary Indic Surface V High Wat Saturatio Water M Sediment Drift Dep Algal Mat Iron Depo Inundatio Water-St Field Observa Surface Water Surface Water Surface Water Saturation Pr (includes cap)	iY irology Indicators cators (minimum o Vater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5) on Visible on Aeria cained Leaves (B9) ations: er Present? Ye resent? Ye	I Imagery (B7) s No _ s No _ s No _	Sal Aq Hyu Ory Oxi (wi Pre Thi Oth X De X De	t Crust (B11) uatic Invertebra drogen Sulfide ( /-Season Water idized Rhizosph here not tilled) esence of Reduc n Muck Surface her (Explain in R pth (inches): pth (inches):	Odor (C1) Table (C2) eres along Livir ed Iron (C4) (C7) semarks)	Wetland	(C3)	Surface So Sparsely \ Drainage Oxidized I <b>(where ti</b> Crayfish E Saturation Geomorp FAC-Neut Frost-Hea	bil Cracks (B6) /egetated Cor Patterns (B10 Rhizospheres Iled) Surrows (C8) n Visible on Ar hic Position (I ral Test (D5) ve Hummock	ncave Surface (I ) on Living Roots erial Imagery (C D2) s (D7) <b>(LRR</b>

Project/Site: Parshall Transload Fac	cility	City/Cou	nty:		Makoti/ Ward	l	Sampli	ng Dat	e: 8	3/25/2015
	, arr Engineerir		• _			North	 Sampli	ng Poi		DP4U
Investigator(s): A Stegeman			Se	ection, To	ownship, Range:		13,152	N, 88V	v	
Landform (hillslope, terrace, etc.):			Local r	relief (co	ncave, convex, no	one):	Concav	e	Slope (%)	): <5%
					Long:				Datum:	NAD83
Soil Map Unit Name:	C210B-Willia					NWI classi				MA
Are climatic/hydrologic conditions on the site ty						- · · · · · · · · · · · · · · · · · · ·				
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro								Yes	X	NO
Are Vegetation <u>No</u> , Soil <u>No</u> , or Hydro SUMMARY OF FINDINGS – Attach site					(if needed, explained)			+r	ac ata	
			ing p			ects, impo		autro	es, etc.	
				Is the S	ampled Area					
		<u> </u>			a Wetland?	Yes	No	X		
Wetland Hydrology Present? Yes	No	<u> </u>								
Remarks:										
VEGETATION – Use scientific names of	f plants									
	Absolute %	Dominant	Indica	ator	Dominance	e Test Works	heet:			
Tree Stratum (Plot size: <u>30</u> )	Cover	Species?	Statu	IS		Dominant Sp				
						BL, FACW, or			0	(A)
1		= Total Cov	ver			per of Domin				
Sapling/Shrub Stratum (Plot size: 15			-		Species Acr	oss All Strata	:		1	(B)
						Dominant Sp			0.0%	( ^ / D )
1		= Total Cov	/er		That Are O	BL, FACW, or	FAC:		0.0%	(A/B)
Herb Stratum (Plot size: <u>5</u> )		10001000			Prevalence	Index Work	sheet:			
1. Cirsium arvense	80%	Y	FA	CU	Total % Cov			Mult	iply by:	
2. Sonchus oleraceus	15%	N	U	PL						_
3. Rudbeckia hirta	5%	N	FA	CU	OBL species		<u>%</u>	×1	0.0%	_
4					FACW spec		%	x 2 _	0.0%	
Woody Vine Stratum (Plot size: <u>30</u> )	100%	= Total Cov	/er		FAC species	s <u> </u>	1%	x 3 _	0.0%	_
					FACU speci	es <u>8</u>	5%	x 4	340.0%	_
1					UPL species	s <u>1</u>	5%	x 5	75.0%	
% Bare Ground in Herb Stratum 0.00%		= Total Cov	ver		Column To	tals: 100	).0%	(A)	415%	(B)
					Prevalen	ce Index = B/	A =		4.15	
					Hydrophyt	ic Vegetatior	Indicat	ors:		
						oid Test for H			retation	
						minance Test			Secucion	
						valence Inde				
						narks or on a	•	•	•	porting data
					Proble	ematic Hydro	phytic Ve	egetati	ion (Explai	in)
					Indicators of	hydric soil a	nd wetla	nd hyd	Irology mu	ust be
					present, unle	ess disturbed				
					Hydrophyt Vegetation Present?			No	x	
Remarks:										

Depth	Matrix			Redox Fea	tures						
(inches)	Color:	%	Color:	%	Type:	Loc:	Te	xture:	Rer	marks:	
0-20	10YR 2/2	100%					Sandy	v Clay Loam			
Type: C=Conc	entration, D=Depl	etion, RM=Red	uced Matrix	, CS=Covered o	or Coated Sand	Grains		Location:	PL=Pore Lini	ng, M=Matrix	
Hydric Soil In	dicators: (Applical	ole to all LRRs,	unless othe	rwise noted.)			Indicator	s for Probler	matic Hydric	Soils	
Histosol	(A1)			Sandy Gleyed	d Matrix (S4)		1 cm	n Muck (A9) <b>(</b> I	LRR I, J)		
Histic Ep	ipedon (A2)			Sandy Redox	(S5)		Coas	st Prarie Red	ox (A16) <b>(LRF</b>	R F, G, H)	
Black His	stic (A3)			Stripped Mat	trix (S6)		Dark	Surface (S7)	(LRR G)		
Hydroge	n Sulfide (A4)				y Mineral (F1)		High	Plains Depre	essions (F16)		
	d Layers (A5) (LRR	: F)			d Matrix (F2)				f MLRA 72 &		
	ick (A9) <b>(LRR F, G, H</b>	-		 Depleted Ma			-	uced Vertic (		•	
	d Below Dark Surfa			 Redox Dark S				Parent Mate			
	rk Surface (A12)	. ,			rk Surface (F7)				k Surface (TF	-12)	
	uck Mineral (S1)			Redox Depre				er (Explain in		,	
	lucky Peat or Peat	(S2) <b>(LRR G. H</b>	) —		Depression (F1	6)			-	on and wetla	nd
	icky Peat or Peat (			(MLRA 72 &		- /		y must be pr		disturbed or	
Restrictive La	yer (if present):										
Type:							Hudric Sc	oil Present?	Yes	No V	
	-1						Hyunc Sc	in Flesent:	165	<u>No X</u>	
Depth (in Remarks:	cnes):										_
Remarks:											
Remarks: IYDROLOG	Y										_
Remarks: IYDROLOG Wetland Hyd	Y rology Indicators	<sup>;</sup> one required;		at apply)				econdary Ind	dicators (2 or	more require	
Remarks: IYDROLOG Wetland Hyd Primary Indic:	Y rology Indicators ators (minimum of	one required;					<u>S</u>			more require	
Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W	Y rology Indicators ators (minimum of Vater (A1)	one required;	Salt	Crust (B11)	tes (B13)		S	Surface S	oil Cracks (Bé	5)	ed)
Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W High Wat	Y rology Indicators ators (minimum of Vater (A1) er Table (A2)	<sup>:</sup> one required;	Salt Aqu	Crust (B11) atic Invertebra			<u>\$</u>	Surface S Sparsely	oil Cracks (Bé /egetated Co	5) oncave Surfac	ed)
Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W High Wat Saturatio	Y rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3)	<sup>:</sup> one required;	Salt Aqu Hyd	Crust (B11) atic Invertebra rogen Sulfide C	Ddor (C1)		<u>S</u>	Surface S Sparsely Drainage	oil Cracks (B6 /egetated Co Patterns (B1	5) oncave Surfac 0)	ed) e (B8)
Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W High Wat Saturatio Water Ma	Y rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1)	<sup>:</sup> one required;	Salt Aqu Hyd Dry-	Crust (B11) atic Invertebra rogen Sulfide C -Season Water	Ddor (C1) Table (C2)	ng Roots (		Surface S Sparsely Drainage Oxidized	oil Cracks (B6 /egetated Co Patterns (B1 Rhizospheres	5) oncave Surfac	ed) e (B8)
Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W High Wat Saturatio Water Ma Sediment	Y rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2)	<sup>:</sup> one required;	Salt Aqu Hyd Dry- Oxic	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizosphe	Ddor (C1) Table (C2)	ng Roots (		Surface S Sparsely Drainage Oxidized (where ti	oil Cracks (B6 /egetated Co Patterns (B1 Rhizospheres <b>lled)</b>	5) oncave Surfac 0)	ed) e (B8
Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W High Wat Saturation Water Ma Sediment Drift Depo	Y rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2)	<sup>;</sup> one required;	Salt Aqu Hyd Dry- Oxic <b></b> (wh	Crust (B11) atic Invertebra rogen Sulfide C -Season Water	Odor (C1) Table (C2) eres along Livii	ng Roots (		Surface S Sparsely V Drainage Oxidized (where ti Crayfish E	oil Cracks (Bé Vegetated Co Patterns (B1 Rhizospheres <b>Iled)</b> Burrows (C8)	5) oncave Surfac 0)	ed) e (B8 ots (C
Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W High Wat Saturation Water Ma Sediment Drift Depo	Y rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) osits (B3) : or Crust (B4)	<sup>:</sup> one required;	Salt Aqu Hyd Dry- Oxic <b>(wh</b> Pres	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizospho ere not tilled)	Odor (C1) Table (C2) eres along Livin ed Iron (C4)	ng Roots (		Surface S Sparsely V Drainage Oxidized (where ti Crayfish E Saturatio	oil Cracks (Bé Vegetated Co Patterns (B1 Rhizospheres <b>Iled)</b> Burrows (C8)	5) oncave Surfac 0) 5 on Living Ro Aerial Imagery	ed) e (B8 ots (C
Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W High Wat Saturation Water Ma Sediment Drift Dep Algal Mat Iron Depo	Y rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) osits (B3) : or Crust (B4)		Salt Aqu Hyd Dry- Oxic <b>Oxic</b> <b>Oxic</b> Thir	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizosphe ere not tilled) sence of Reduc	Odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7)	ng Roots (		Surface S Sparsely V Drainage Oxidized (where ti Crayfish E Saturatio Geomorp	oil Cracks (B6 /egetated Co Patterns (B1 Rhizospheres Iled) Burrows (C8) n Visible on A	5) oncave Surfac 0) 5 on Living Ro Aerial Imagery	ed) e (B8 ots (C
Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio	Y rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) osits (B3) : or Crust (B4) osits (B5)		Salt Aqu Hyd Dry- Oxic <b>Oxic</b> <b>Oxic</b> Thir	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizosphe ere not tilled) sence of Reduc Muck Surface	Odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7)	ng Roots (		Surface S Sparsely V Drainage Oxidized (where ti Crayfish E Saturatio Geomorp FAC-Neut	oil Cracks (B6 Vegetated Co Patterns (B1 Rhizospheres <b>Iled)</b> Burrows (C8) n Visible on A hic Position (	5) oncave Surfac 0) 5 on Living Ro Aerial Imagery (D2)	ed) e (B8) ots (C r (C9)
Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio	Y rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) osits (B3) cor Crust (B4) osits (B5) on Visible on Aerial ained Leaves (B9)		Salt Aqu Hyd Dry- Oxic <b>Oxic</b> <b>Oxic</b> Thir	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizosphe ere not tilled) sence of Reduc Muck Surface	Odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7)	ng Roots (		Surface S Sparsely V Drainage Oxidized (where ti Crayfish E Saturatio Geomorp FAC-Neut	oil Cracks (Bé Vegetated Co Patterns (B1 Rhizospheres <b>Iled)</b> Burrows (C8) n Visible on A hic Position ( ral Test (D5)	5) oncave Surfac 0) 5 on Living Ro Aerial Imagery (D2)	ed) e (B8) ots (C
Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Water-Sta	Y rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) osits (B3) c or Crust (B4) osits (B5) on Visible on Aerial ained Leaves (B9) ttions:	l Imagery (B7)	Salt Aqu Hyd Dry- Oxic <b>(wh</b> Pres Thir Oth	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizosphe ere not tilled) sence of Reduc n Muck Surface er (Explain in R	Odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7)	ng Roots (		Surface S Sparsely V Drainage Oxidized (where ti Crayfish E Saturatio Geomorp FAC-Neut	oil Cracks (Bé Vegetated Co Patterns (B1 Rhizospheres <b>Iled)</b> Burrows (C8) n Visible on A hic Position ( ral Test (D5)	5) oncave Surfac 0) 5 on Living Ro Aerial Imagery (D2)	ed) e (B8) ots (C r (C9)
Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Water-Sta Field Observa	Y rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) on Visible on Aerial ained Leaves (B9) ations: r Present? Yes	l Imagery (B7)	X Dep	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizosphe ere not tilled) sence of Reduc n Muck Surface er (Explain in R	Odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7)		C3)	Surface S Sparsely V Drainage Oxidized (where ti Crayfish E Saturatio Geomorp FAC-Neut Frost-Hea	oil Cracks (B6 Vegetated Co Patterns (B1 Rhizospheres <b>Iled)</b> Burrows (C8) In Visible on A hic Position ( ral Test (D5)	5) oncave Surfac 0) s on Living Ro Aerial Imagery (D2) ks (D7) <b>(L</b>	ed) e (B8) ots (C r (C9) <b>RR F)</b>
Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Water-Sta Surface Water Saturation Pro	Y rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) osits (B3) c or Crust (B4) osits (B5) on Visible on Aerial ained Leaves (B9) Ations: r Present? Yes esent? Yes	l Imagery (B7)	X Dep	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizosphe ere not tilled) sence of Reduc n Muck Surface er (Explain in R	Odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7)		C3)	Surface S Sparsely V Drainage Oxidized (where ti Crayfish E Saturatio Geomorp FAC-Neut	oil Cracks (Bé Vegetated Co Patterns (B1 Rhizospheres <b>Iled)</b> Burrows (C8) n Visible on A hic Position ( ral Test (D5)	5) oncave Surfac 0) s on Living Ro Aerial Imagery (D2) ks (D7) <b>(L</b>	ed) e (B8 ots (C (C9) <b>RR F)</b>
Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Water-Sta Field Observa Surface Water Surface Water Saturation Pro (includes capi	Y rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) osits (B3) c or Crust (B4) osits (B5) on Visible on Aerial ained Leaves (B9) Ations: r Present? Yes esent? Yes	I Imagery (B7) s No s No s No	Salt          Aqu          Hyd          Oxio          Oxio	Crust (B11) atic Invertebra rogen Sulfide C Season Water dized Rhizosphe ere not tilled) sence of Reduc n Muck Surface er (Explain in R th (inches): th (inches):	Odor (C1) Table (C2) eres along Livin ed Iron (C4) (C7) emarks)	Wetland	C3)	Surface S Sparsely V Drainage Oxidized (where ti Crayfish E Saturatio Geomorp FAC-Neut Frost-Hea	oil Cracks (B6 Vegetated Co Patterns (B1 Rhizospheres <b>Iled)</b> Burrows (C8) In Visible on A hic Position ( ral Test (D5)	5) oncave Surfac 0) s on Living Ro Aerial Imagery (D2) ks (D7) <b>(L</b>	ed) e (B8 ots (C (C9) <b>RR F)</b>

Project/Site: Applicant/Owner:	Parshall Transload Fa					Makoti/ War State:	d North		pling Dat pling Poi		3/25/2015 DP5W
Investigator(s):	I cmopol2 A	Barr Engineerii n & M Keller				nship, Range:			52N, 88V		DPSW
Landform (hillslope, terrac						cave, convex, r				Slope (%	): <5%
Subregion (LRR):		depression	Lat:			Long:				Datum:	NAD83
Soil Map Unit Name:			ams-Bowbell				NWI clas			-	MA
Are climatic/hydrologic co	nditions on the site					No	(if no, exp	lain in Re	emarks.)		
Are Vegetation No ,	Soil No , or Hyd	rology No	significantly	/ distur	rbed? A	re "Normal Cir	cumstance	s" presen	t? Yes	х	No
Are Vegetation No , S	Soil <u>No</u> , or Hyd	rology No	naturally pr	oblem	atic? (i	f needed, expl	ain in Rema	rks.)			
SUMMARY OF FINDI	NGS – Attach site	e map show	ing sampl	ing po	oint loca	tions, trans	sects, imp	ortant	feautr	es, etc.	
Hydrophytic Vegetation P	Present? Yes	X No									
Hydric Soil Present?	Yes	X No				mpled Area	Vaa	v	Na		
Wetland Hydrology Prese	ent? Yes	X No			within a	Wetland?	Yes	X	NO		
Remarks:											
VEGETATION – Use se	cientific names o	of plants									
Tree Stratum (Plot size:	<u> </u>	Absolute % Cover	Dominant Species?	Indica Statu:		Dominand	e Test Wor	ksheet:			
	/	COVEL	Sheries:	Statu	5	Number o	f Dominant	Species			
1						That Are 0	OBL, FACW,	or FAC:		1	(A)
1			= Total Cov	/er	;	Total Num	nber of Dom	ninant			(-)
Sapling/Shrub Stratum	(Plot size: <u>15</u>	)				Species A	cross All Str	ata:		1	(B)
1							f Dominant DBL, FACW,	•	1	L00.0%	(A/B)
Herb Stratum (Plot size:	5)		= Total Cov	ver							
1. Phalaris arundinacea	<u> </u>	95%	Y	FAC	CW	Prevalenc	e Index Wo	orksheet:			
2. Rumex occidentalis		5%	N	O		Total % Co	over of:		Mult	iply by:	
3						OBL speci	es	5%	x 1	5.0%	
J		100%	= Total Cov	ver		FACW spe	cies	95%	x 2	190.0%	
Woody Vine Stratum (Pl	ot size: <u>30</u>	)				FAC specie	es	0%	x 3	0.0%	
						FACU spec	cies	0%	x 4	0.0%	
1			= Total Cov	ver		UPL speci	 	0%	x 5	0.0%	
% Bare Ground in Herb Strat	um	_				Column T		100.0%	(A)	195%	(B)
											(0)
						Prevale	nce Index =	B/A =		1.95	
						Hydrophy	tic Vegetat	ion Indic	ators:		
						1 - Ra	apid Test fo	r Hydrop	hytic Ve	getation	
						Y 2 - D	ominance T	est if >50	)%		
						Y 3 - Pr	revalence In	idex is ≤ 3	3.0		
							lorphologica marks or or				porting data
							lematic Hyd	•			in)
						Indicators c present, un	of hydric soi	l and wet	land hyd	drology m	
						Hydrophy Vegetatio	tic		biemati		
						Present?	Y	es <u>X</u>	_No		
Remarks:											

~	0		
~	( )	I	
J	J		-

Depth (inches)       Color         0-8       10YF         8-20       10YF         Type: C=Concentratio         Hydric Soil Indicators         Histosol (A1)         Histic Epipedon (         Black Histic (A3)         Hydrogen Sulfide         Stratified Layers         1 cm Muck (A9)(i         Depleted Below         Thick Dark Surfac         Sandy Muck Min         2.5 cm Mucky Pear         Scm Mucky Pear         Type:         Depth (inches):	2/2 10 5/6 9 n, D=Depletion (Applicable to (A2) (A4) (A5) (LRR F) RR F, G, H) Dark Surface (/ e (A12) eral (S1) at or Peat (S2) or Peat (S3) (	00% 1 0% 1 n, RM=Reduc o all LRRs, ur A11) (LRR G, H)	nless other	wise noted.) Sandy Gleyed Sandy Redox ( Stripped Matri Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark	C Coated Sand Matrix (S4) S5) x (S6) Mineral (F1) Matrix (F2) ix (F3)	Loc: M Grains	Indicators for Problem 1 cm Muck (A9)(L	.RR I, J) ox (A16) (LRR F, G, H) (LRR G)			
0-8       10YF         8-20       10YF         Type: C=Concentratio         Hydric Soil Indicators         Histosol (A1)         Histic Epipedon (         Black Histic (A3)         Hydrogen Sulfide         Stratified Layers         1 cm Muck (A9)(I         Depleted Below         Thick Dark Surface         Sandy Muck Min         2.5 cm Mucky Peat         S cm Mucky Peat         Restrictive Layer (if p         Type:	2/2 10 5/6 9 n, D=Depletion (Applicable to (A2) (A4) (A5) (LRR F) RR F, G, H) Dark Surface (/ e (A12) eral (S1) at or Peat (S2) or Peat (S3) (	00% 1 0% 1 n, RM=Reduc o all LRRs, ur A11) (LRR G, H)	LOYR 3/1 red Matrix, nless other	10% CS=Covered or wise noted.) Sandy Gleyed Sandy Redox ( Stripped Matri Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark	C Coated Sand Matrix (S4) S5) x (S6) Mineral (F1) Matrix (F2) rix (F3)	M	Loam Clay Loam Location: Indicators for Problem 1 cm Muck (A9)(L Coast Prarie Redo Dark Surface (S7)	PL=Pore Lining, M=Matrix natic Hydric Soils .RR I, J) ox (A16) (LRR F, G, H) (LRR G)			
8-20 10YF Type: C=Concentratio Hydric Soil Indicators Histosol (A1) Histic Epipedon ( Black Histic (A3) Hydrogen Sulfide Stratified Layers 1 cm Muck (A9)( Depleted Below Thick Dark Surfae Sandy Muck Min 2.5 cm Mucky Pea 5 cm Mucky Pea Restrictive Layer (if p Type:	5/6 9 n, D=Depletior (Applicable to A2) (A4) (A5) (LRR F) RR F, G, H) Dark Surface ( <i>i</i> e (A12) eral (S1) at or Peat (S2) or Peat (S3) (	0% 1 n, RM=Reduc o all LRRs, ur A11) (LRR G, H)	nless other	CS=Covered or wise noted.) Sandy Gleyed Sandy Redox ( Stripped Matri Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark	Coated Sand Matrix (S4) S5) x (S6) Mineral (F1) Matrix (F2) rix (F3)		Clay Loam Location: Indicators for Problem 1 cm Muck (A9)(L Coast Prarie Redo Dark Surface (S7)	natic Hydric Soils .RR I, J) ox (A16) (LRR F, G, H) (LRR G)			
Type: C=Concentratio Hydric Soil Indicators Histosol (A1) Histic Epipedon ( Black Histic (A3) Hydrogen Sulfide Stratified Layers 1 cm Muck (A9)( Depleted Below Thick Dark Surfae Sandy Muck Min 2.5 cm Mucky Peat 6 cm Mucky Peat 7 type:	n, D=Depletion (Applicable to (A4) (A5) (LRR F) RR F, G, H) Dark Surface (/ e (A12) eral (S1) at or Peat (S2) or Peat (S3) (	a, RM=Reduc o all LRRs, ur A11) (LRR G, H)	ed Matrix, nless other	CS=Covered or wise noted.) Sandy Gleyed Sandy Redox ( Stripped Matri Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark	Coated Sand Matrix (S4) S5) x (S6) Mineral (F1) Matrix (F2) rix (F3)		Location: Indicators for Problem 1 cm Muck (A9)(L Coast Prarie Redo Dark Surface (S7)	natic Hydric Soils .RR I, J) ox (A16) (LRR F, G, H) (LRR G)			
Hydric Soil Indicators Histosol (A1) Histic Epipedon ( Black Histic (A3) Hydrogen Sulfide Stratified Layers 1 cm Muck (A9)( Depleted Below Thick Dark Surfac Sandy Muck Min 2.5 cm Mucky Peat 5 cm Mucky Peat Restrictive Layer (if p Type:	(Applicable to A2) (A4) (A5) (LRR F) RR F, G, H) Dark Surface ( <i>I</i> e (A12) eral (S1) at or Peat (S2) or Peat (S3) (	A11) (LRR G, H)	nless other	wise noted.) Sandy Gleyed Sandy Redox ( Stripped Matri Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark	Matrix (S4) S5) x (S6) Mineral (F1) Matrix (F2) rix (F3)	Grains	Indicators for Problem 1 cm Muck (A9)(L Coast Prarie Redo Dark Surface (S7)	natic Hydric Soils .RR I, J) ox (A16) (LRR F, G, H) (LRR G)			
Hydric Soil Indicators Histosol (A1) Histic Epipedon ( Black Histic (A3) Hydrogen Sulfide Stratified Layers 1 cm Muck (A9)( Depleted Below Thick Dark Surfac Sandy Muck Min 2.5 cm Mucky Peat 5 cm Mucky Peat	(Applicable to A2) (A4) (A5) (LRR F) RR F, G, H) Dark Surface ( <i>I</i> e (A12) eral (S1) at or Peat (S2) or Peat (S3) (	A11) (LRR G, H)	nless other	wise noted.) Sandy Gleyed Sandy Redox ( Stripped Matri Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark	Matrix (S4) S5) x (S6) Mineral (F1) Matrix (F2) rix (F3)	Grains	Indicators for Problem 1 cm Muck (A9)(L Coast Prarie Redo Dark Surface (S7)	natic Hydric Soils .RR I, J) ox (A16) (LRR F, G, H) (LRR G)			
Histosol (A1) Histic Epipedon ( Black Histic (A3) Hydrogen Sulfide Stratified Layers 1 cm Muck (A9)( Depleted Below Thick Dark Surfac Sandy Muck Min 2.5 cm Mucky Pea 5 cm Mucky Peat	(A4) (A5) ( <b>LRR F)</b> <b>.RR F, G, H)</b> Dark Surface ( <i>i</i> e (A12) eral (S1) at or Peat (S2) or Peat (S3) (	411) (LRR G, H)		_Sandy Gleyed _Sandy Redox ( _Stripped Matri _Loamy Mucky _Loamy Gleyed _Depleted Matri _Redox Dark Su _Depleted Dark	55) x (S6) Mineral (F1) Matrix (F2) ix (F3)		1 cm Muck (A9) <b>(L</b> Coast Prarie Redo Dark Surface (S7)	.RR I, J) ox (A16) (LRR F, G, H) (LRR G)			
Histic Epipedon ( Black Histic (A3) Hydrogen Sulfide Stratified Layers 1 cm Muck (A9)( Depleted Below Thick Dark Surfac Sandy Muck Min 2.5 cm Mucky Pea 5 cm Mucky Pea <b>Restrictive Layer (if p</b> Type:	(A4) (A5) <b>(LRR F)</b> <b>RR F, G, H)</b> Dark Surface ( <i>i</i> e (A12) eral (S1) at or Peat (S2) or Peat (S3) <b>(</b>	(LRR G, H)		_Sandy Redox ( _Stripped Matri _Loamy Mucky _Loamy Gleyed _Depleted Matri _Redox Dark Su _Depleted Dark	55) x (S6) Mineral (F1) Matrix (F2) ix (F3)		Coast Prarie Redo Dark Surface (S7)	ox (A16) <b>(LRR F, G, H)</b> ( <b>LRR G)</b>			
Black Histic (A3) Hydrogen Sulfide Stratified Layers 1 cm Muck (A9)( Depleted Below Thick Dark Surfac Sandy Muck Min 2.5 cm Mucky Pea 5 cm Mucky Pea <b>Restrictive Layer (if p</b> Type:	(A4) (A5) <b>(LRR F)</b> <b>RR F, G, H)</b> Dark Surface ( <i>i</i> e (A12) eral (S1) at or Peat (S2) or Peat (S3) <b>(</b>	(LRR G, H)		_Stripped Matri _Loamy Mucky _Loamy Gleyed _Depleted Matri _Redox Dark Su _Depleted Dark	x (S6) Mineral (F1) Matrix (F2) ix (F3)		Dark Surface (S7)	(LRR G)			
Hydrogen Sulfide Stratified Layers 1 cm Muck (A9)( Depleted Below Thick Dark Surfac Sandy Muck Min 2.5 cm Mucky Peat 6 cm Mucky Peat Restrictive Layer (if p	A5) (LRR F) RR F, G, H) Dark Surface ( <i>i</i> e (A12) eral (S1) at or Peat (S2) or Peat (S3) (	(LRR G, H)	X	Loamy Mucky Loamy Gleyed Depleted Mati Redox Dark Su Depleted Dark	Mineral (F1) Matrix (F2) ix (F3)						
Stratified Layers 1 cm Muck (A9)( Depleted Below Thick Dark Surfac Sandy Muck Min 2.5 cm Mucky Pea 5 cm Mucky Pea Restrictive Layer (if p Type:	A5) (LRR F) RR F, G, H) Dark Surface ( <i>i</i> e (A12) eral (S1) at or Peat (S2) or Peat (S3) (	(LRR G, H)	X	Loamy Gleyed Depleted Matı Redox Dark Su Depleted Dark	Matrix (F2) ix (F3)		High Plains Depre	scienc (F1C)			
1 cm Muck (A9)(     Depleted Below     Thick Dark Surfac     Sandy Muck Min     2.5 cm Mucky Pea     5 cm Mucky Pea      Restrictive Layer (if p     Type:	RR F, G, H) Dark Surface (/ e (A12) eral (S1) at or Peat (S2) or Peat (S3)	(LRR G, H)	X	Depleted Matu Redox Dark Su Depleted Dark	rix (F3)			essions (FID)			
Depleted Below Thick Dark Surface Sandy Muck Min 2.5 cm Mucky Pear 5 cm Mucky Pear Restrictive Layer (if p	Dark Surface ( e (A12) eral (S1) at or Peat (S2) or Peat (S3) (	(LRR G, H)	X	Redox Dark Su Depleted Dark			(LRR H outside of	f MLRA 72 & 73)			
Thick Dark Surface Sandy Muck Min 2.5 cm Mucky Peat 5 cm Mucky Peat Restrictive Layer (if p	e (A12) eral (S1) at or Peat (S2) or Peat (S3) <b>(</b>	(LRR G, H)	X	Depleted Dark			Reduced Vertic (F	-18)			
Sandy Muck Min 2.5 cm Mucky Pea 5 cm Mucky Peat Restrictive Layer (if p	eral (S1) at or Peat (S2) or Peat (S3)		X		rface (F6)		Red Parent Mater	rial (TF2)			
2.5 cm Mucky Pe 5 cm Mucky Peat Restrictive Layer (if p Type:	at or Peat (S2) or Peat (S3)(		Х		Surface (F7)		Very Shallow Dark Surface (TF12)				
5 cm Mucky Pear Restrictive Layer (if p Type:	or Peat (S3)			Redox Depress	sions (F8)		Other (Explain in Remarks)				
Restrictive Layer (if p		LRR F)		High PLains De	pression (F1	6)	Indicators of hydrophy	tic vegetation and wetland			
Туре:	resent):			(MLRA 72 & 7	3 of LRR H)		hydrology must be present, unless disturbed or problematic.				
							•				
Depth (inches):							Hydric Soil Present?	Yes X No			
-1 ()							Hyunc Son Present:				
HYDROLOGY											
Wetland Hydrology I	dicators										
Primary Indicators (m		required; ch	neck all tha	t apply)			Secondary Ind	licators (2 or more required)			
Surface Water (A				Crust (B11)			Surface So	pil Cracks (B6)			
High Water Table	(A2)		Aqua	atic Invertebrate	es (B13)		Sparsely V	/egetated Concave Surface (B8)			
Saturation (A3)			Hydi	ogen Sulfide Od	lor (C1)		Drainage	Patterns (B10)			
Water Marks (B1)			Dry-	Season Water T	able (C2)		Oxidized F	Rhizospheres on Living Roots (C			
Sediment Deposit	s (B2)			ized Rhizospher		ng Roots (					
Drift Deposits (B3			(whe	ere not tilled)	-		Crayfish B	surrows (C8)			
Algal Mat or Crus	(B4)		Pres	ence of Reduce	d Iron (C4)		Saturation	n Visible on Aerial Imagery (C9)			
Iron Deposits (B5			Thin	Muck Surface (	C7)		X Geomorp	hic Position (D2)			
Inundation Visible	on Aerial Ima	gery (B7)	Othe	er (Explain in Re	marks)		X FAC-Neut	ral Test (D5)			
X Water-Stained Le	aves (B9)						Frost-Hea	ve Hummocks (D7) (LRR F)			
Field Observations:											
Surface Water Presen	? Yes	No X	C Dept	h (inches):							
	Yes	No X	Dept	h (inches):		Wetland	Hydrology Present?	Yes X No			
Water Table Present?		No X	C Dept	h (inches):							
Saturation Present?											
	ge)			arial photos pro	vious inspec	tions) if a	vailable				

Project/Site: Parsha	ll Transload Faci	litv	Citv/Cou	untv:		Makoti/ War	ł	Samp	ing Da	te: 8	8/25/2015
Applicant/Owner:		rr Engineerin				State:	North	Samp	-		DP6U
	A Stegeman &			Se	ection, T	ownship, Range:		13,15	-		
Landform (hillslope, terrace, etc.	):	depression	_	Local	relief (co	oncave, convex, n	one):	none	)	Slope (%	): <5%
Subregion (LRR):	LRR-F		Lat:	47.9	978879	Long:	-101	.872791		Datum:	NAD83
Soil Map Unit Name:		C210B-Willia					_	ssification			MA
Are climatic/hydrologic condition											
Are Vegetation No , Soil									? Yes	X	No
Are Vegetation <u>No</u> , Soil						(if needed, expla				-	
SUMMARY OF FINDINGS -		•		ling p	oint lo	cations, trans	ects, imp	ortant f	eautr	es, etc.	
Hydrophytic Vegetation Present		No									
Hydric Soil Present?	Yes	No	<u> </u>			Sampled Area a Wetland?	Yes	N	o X	(	
Wetland Hydrology Present?	Yes	No	Х		within						
Remarks: VEGETATION – Use scienti	ific names of	nlants									
	ine names of	Absolute %	Dominant	Indic	cator						
Tree Stratum (Plot size: <u>30</u>	)	Cover	Species?	Statu		Dominanc					
						Number of That Are O		•		0	(A)
1			Tables			Total Num				-	( )
Sapling/Shrub Stratum (Plot siz	ze: <u>15</u>		_ = Total Co	ver		Species Ac				1	(B)
·						Percent of	Dominant	Species			
1						That Are O	BL, FACW,	or FAC:		0.0%	(A/B)
<u>Herb Stratum</u> (Plot size: <u>5</u>	)		_ = Total Co	ver							
1. Cirsium arvense	/	75%	Y	FA	ACU	Prevalence	e Index Wo	orksheet:			
2. Sonchus oleraceus		10%	N		JPL	Total % Co	ver of:		Mul	tiply by:	
3. Rumex occidentalis		5%	N		DBL	OBL specie	s	5%	x 1	5.0%	
4.						FACW spec	cies	0%	x 2	0.0%	
7		90%	= Total Co	ver		FAC specie	s	0%	x 3	0.0%	
Woody Vine Stratum (Plot size:	30)					FACU spec	ies	75%	x 4	300.0%	
						UPL specie		10%	x 5	50.0%	
1			= Total Co	ver					-		(D)
% Bare Ground in Herb Stratum						Column To		90.0%	(A)	355%	(B)
						Prevaler	nce Index =	B/A =		3.94	
						Hydrophyt	ic Vegetat	ion Indica	tors:		
						1 - Ra	pid Test fo	r Hydroph	ytic Ve	getation	
						 2 - Do	minance T	est if >50%	/ D	-	
							evalence Ir				
										rovido cup	porting data
							marks or oi		•	•	porting data
						Probl	ematic Hyd	lrophytic \	egetat	ion (Explai	in)
						Indicators of present, unl					ust be
						Hydrophyt	tic n			-	
						Present?	Ŷ	es	No	X	
Remarks:											

SOIL

(here the section	Matri			Redox Fe	atures		— <b>-</b>	Demonstration
(inches)	Color:	%	Color	: %	Type:	Loc:	Texture:	Remarks:
0-16	10YR 2/1	100%						
Type: C=Con	centration, D=D	epletion, RM	I=Reduced Ma	trix, CS=Covered	or Coated San	d Grains	Location	n: PL=Pore Lining, M=Matrix
Hydric Soil Ir	ndicators: (Appl	icable to all	LRRs, unless o	therwise noted.)			Indicators for Proble	ematic Hydric Soils
Histoso	l (A1)			Sandy Gleye	ed Matrix (S4)		1 cm Muck (A9	)(LRR I, J)
Histic E	oipedon (A2)			Sandy Redo	x (S5)		Coast Prarie Re	dox (A16) <b>(LRR F, G, H)</b>
Black Hi	istic (A3)			Stripped Ma	atrix (S6)		Dark Surface (S	7) (LRR G)
	en Sulfide (A4)				ky Mineral (F1		High Plains Dep	pressions (F16)
	d Layers (A5) (				ed Matrix (F2)		(LRR H outside	of MLRA 72 & 73)
	uck (A9) <b>(LRR F,</b>			Depleted M			Reduced Vertic	
	d Below Dark S				Surface (F6)		Red Parent Ma	
	ark Surface (A12	-			ark Surface (F7	)		ark Surface (TF12)
·	/luck Mineral (S	-	_	Redox Depr			Other (Explain i	-
	Mucky Peat or F ucky Peat or Pe			High PLains Depression (F16) (MLRA 72 & 73 of LRR H)			Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
Restrictive L	ayer (if present	):					problematic.	
	lardpan >16 inc							
Depth (ir	nches): 16						Hydric Soil Present?	Yes No X
Remarks:	<u>10</u>							
Remarks:								
Remarks:	57	nre						
Remarks: HYDROLOC Wetland Hyd	GY drology Indicato		uired: check al	that apply)			Secondary I	ndicators (2 or more required)
Remarks: HYDROLOC Wetland Hyd Primary India	GY drology Indicato cators (minimur							ndicators (2 or more required) Soil Cracks (B6)
Remarks: <b>HYDROLOC</b> Wetland Hyd Primary Indic Surface N	<b>GY</b> drology Indicato cators (minimur Water (A1)			Salt Crust (B11)	ates (B13)		Surface	Soil Cracks (B6)
Remarks: <b>HYDROLOC</b> Wetland Hyd Primary Indic Surface N	<b>GY</b> drology Indicator cators (minimur Water (A1) ter Table (A2)			Salt Crust (B11) Aquatic Invertebr			Surface Sparsely	Soil Cracks (B6) / Vegetated Concave Surface (B
Remarks: HYDROLOC Wetland Hyd Primary India Surface V High Wa Saturatio	GY drology Indicato cators (minimur Water (A1) ter Table (A2) on (A3)		 	Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide	Odor (C1)		Surface Sparsely Drainag	Soil Cracks (B6)
Remarks: HYDROLOC Wetland Hyd Primary India Surface V High Wa Saturatio Water M	<b>GY</b> drology Indicator cators (minimur Water (A1) ter Table (A2)		  	Salt Crust (B11) Aquatic Invertebr	Odor (C1) r Table (C2)	ing Roots	Surface Sparsely Drainag Oxidized	Soil Cracks (B6) / Vegetated Concave Surface (E e Patterns (B10) d Rhizospheres on Living Roots
Remarks: HYDROLOC Wetland Hyo Primary Indio Surface V High Wa Saturatio Water M Sedimen	<b>GY</b> drology Indicato cators (minimur Water (A1) ter Table (A2) on (A3) larks (B1)			Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Dry-Season Wate Dxidized Rhizosph (where not tilled)	Odor (C1) r Table (C2) neres along Liv	ing Roots	(C3) Surface Sparsely Oxidized (C3) Surface Crayfish	Soil Cracks (B6) / Vegetated Concave Surface (E e Patterns (B10) d Rhizospheres on Living Roots <b>tilled)</b> I Burrows (C8)
Arministry and a second state of the second st	<b>GY</b> drology Indicato cators (minimur Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) posits (B3) t or Crust (B4)			Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Dry-Season Wate Dxidized Rhizosph (where not tilled) Presence of Redu	Odor (C1) r Table (C2) neres along Liv ) ced Iron (C4)	ing Roots	Cayfish (C3) (C3) (C3) (C3) (C3) (C3) (C3) (C3)	Soil Cracks (B6) / Vegetated Concave Surface (B e Patterns (B10) d Rhizospheres on Living Roots <b>tilled)</b> I Burrows (C8) on Visible on Aerial Imagery (C
Remarks: HYDROLOC Wetland Hyd Primary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep	GY drology Indicato cators (minimur Water (A1) ter Table (A2) on (A3) larks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) oosits (B5)	n of one requ		Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Dry-Season Wate Dxidized Rhizosph (where not tilled) Presence of Redu Fhin Muck Surface	Odor (C1) r Table (C2) neres along Liv ced Iron (C4) e (C7)	ing Roots	(C3) Surface Sparsely Oxidized Crayfish Saturati Geomo	Soil Cracks (B6) / Vegetated Concave Surface (B e Patterns (B10) d Rhizospheres on Living Roots <b>tilled)</b> I Burrows (C8) on Visible on Aerial Imagery (Ct rphic Position (D2)
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## **APPENDIX C**

**Photographs of Survey Area** 



Figure C.1. Seasonal wetland (WET1), facing north (photograph taken August 25, 2015).



Figure C.2. Seasonal wetland (WET1), facing west (photograph taken August 25, 2015).



Figure C.3. Seasonal wetland (WET2), facing south (photograph taken August 25, 2015).



Figure C.4. Seasonal wetland (WET2), facing north (photograph taken August 25, 2015).



Figure C.5. Seasonal wetland (WET3), facing south (photograph taken August 25, 2015).



Figure C.6. Seasonal wetland (WET3), facing north (photograph taken August 25, 2015).



Figure C.7. Permanent wetland (WET4), facing north (photograph taken August 25, 2015).



Figure C.8. Permanent wetland (WET4), facing east (photograph taken August 25, 2015).



Figure C.9. Seasonal wetland (WET5), facing south (photograph taken August 25, 2015).



Figure C.10. Seasonal wetland (WET5), facing north (photograph taken August 25, 2015).



Figure C.11. Seasonal wetland (WET6), facing north (photograph taken August 25, 2015).



Figure C.12. Seasonal wetland (WET6), facing west (photograph taken August 25, 2015).



Figure C.13. Seasonal wetland (WET7), facing north (photograph taken August 25, 2015).



Figure C.14. Seasonal wetland (WET7), facing south (photograph taken August 25, 2015).



Figure C.15. Seasonal wetland (WET8), facing west (photograph taken August 27, 2015).



Figure C.16. Seasonal wetland (WET8), facing south (photograph taken August 27, 2015).



Figure C.17. Seasonal wetland (WET9), facing south (photograph taken August 27, 2015).



Figure C.18. Seasonal wetland (WET9), facing north (photograph taken August 27, 2015).



Figure C.19. Seasonal wetland (WET10), facing south (photograph taken August 27, 2015).



Figure C.20. Seasonal wetland (WET10), facing north (photograph taken August 27, 2015).



Figure C.21. Seasonal wetland (WET11), facing south (photograph taken August 27, 2015).



Figure C.22. Seasonal wetland (WET11), facing west (photograph taken August 27, 2015).



Figure C.23. Seasonal wetland (WET12), facing south (photograph taken August 27, 2015).



Figure C.24. Seasonal wetland (WET12), facing northwest (photograph taken August 27, 2015).



Figure C.25. Seasonal wetland (WET13), facing south (photograph taken August 27, 2015).



Figure C.26. Seasonal wetland (WET13), facing north (photograph taken August 27, 2015).



Figure C.27. Seasonal wetland (WET14), facing north (photograph taken August 27, 2015).



Figure C.28. Seasonal wetland (WET14), facing south (photograph taken August 27, 2015).



Figure C.29. Seasonal wetland (WET15), facing southeast (photograph taken August 27, 2015).



Figure C.30. Seasonal wetland (WET15), facing north (photograph taken August 27, 2015).



Figure C.31. Seasonal wetland (WET16), facing south (photograph taken August 27, 2015).



Figure C.32. Seasonal wetland (WET16), facing north (photograph taken August 27, 2015).