Appendix G. 2017 Main Stem Erosion Repair Project Feasibility Report, May 2016

Wetland Delineation Report - DRAFT

Bassett Creek Restoration Project Feasibility Study

Prepared for Bassett Creek Watershed Management Commission

March 2016



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Wetland Delineation Report

March 2016

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1.0 Introduction

Bassett Creek Watershed Management Commission (BCWMC) is submitting a Wetland Delineation Report as part of a study that examines the feasibility of restoring stream reaches damaged by erosion or affected by sedimentation. The project area is located along several reaches of Bassett Creek from Cedar Lake Road to Dupont Avenue North (the new Bassett Creek tunnel entrance) and Second Avenue North (the old Bassett Creek tunnel entrance) (east section), plus the Fruen Mill site between Glenwood Avenue North and the first railroad bridge crossing (west section), Minneapolis, Hennepin County, Minnesota. The project area is within Sections 20 and 21 of Township 29 North, Range 24 West (**Figure 1**).

Creek edges and wetlands fringing the creek were delineated within the project area. Three wetland boundaries and the entire length of the creek were delineated within the project area and are depicted in **Figures 7 and 8**.

This Wetland Delineation Report has been prepared in accordance with the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual ("1987 Manual", USACE, 1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (USACE, 2010) and the requirements of the Minnesota Wetland Conservation Act (WCA) of 1991. Barr delineated the wetland boundaries and determined wetland types within the project area on November 25, 2015.

This report includes a project overview (Section 2.0), general environmental information (Section 3.0), descriptions of the delineated wetlands (Section 4.0), and a discussion of regulations and the administering authorities (Section 5.0). The Tables section includes the precipitation data. The Figures section includes the Site Location Map, Topography Maps, National Wetland Inventory (NWI), Public Waters Inventory (PWI), Soil Survey Map and the Wetland and Creek Delineation Maps. **Appendix A** includes Wetland Data Forms, and site photographs are included in **Appendix B**.

Regulatory approval is required for wetland delineations performed as a part of this feasibility study where impacts may occur. A site review should be completed as part of final design during the 2016 growing season. The site review would be conducted by a Technical Evaluation Panel consisting of representatives from the Minnesota Board of Water and Soil Resources, Hennepin County, City of Minneapolis, the Minnesota Department of Natural Resources, and USACE.

2.0 **Project Description**

The BCWMC Engineer walked the entire project area in September 2015 and identified sites that are candidates for stabilization to address bank erosion, scour, and/or bank failure. Additional site visits were conducted through November and December 2015 to meet with stakeholders on site, check conceptual stabilization alternatives, and observe the creek during different flow conditions. The project area presented in this report was deemed to be the most critical for meeting the BCWMC goals and objectives while providing a cost-effective benefit.

The bank erosion and bank failures throughout the project area appear to be caused by a combination of natural stream erosion processes, problems associated with changing watershed hydrology, and effects of riparian land use. Stream bank erosion is a natural process that occurs at some rate on all alluvial channels, and the natural erosion rate can be accelerated by local and regional changes in land use and hydrology. Stable stream channels are often said to be in a state of "dynamic equilibrium" with their watersheds, and they adjust to changes in the watershed hydrology. It may take many years or decades for a stream to fully adjust to a rapid change in watershed hydrology. The use of best management practices (BMPs) helps to reduce the impacts to streams from development projects. Nonetheless, development and land use changes fundamentally change the hydrology of the watershed, even if the impacts are significantly reduced compared to eras when BMPs were infrequently used. Physical changes and increased rates of erosion often occur as streams adjust to changes in the hydrology, which often include increased magnitude and frequency of high flow events.

3.0 General Environmental Setting

3.1 Site Description

The proposed project area is made up of an east section and west section and is located within City of Minneapolis property. Land use adjacent to the project area is a mixture of industrial facilities and wooded parks and hill slopes. Active and abandoned industrial facilities (including the City's vehicle impound lot) abut portions of the project area. Other portions of the project area include wooded hill slopes, which in the west section are part of the MPRB's Bassett's Creek Park. (**Figure 1**).

3.2 Topography

Most of the project area has steep and abrupt slopes leading into Bassett Creek. Adjacent areas to the creek and wetlands in the west section have abrupt to moderately undulating topography but flat topography on the Fruen Mill property (**Figure 2**). Adjacent areas in the east section of the project area have mostly flat topography due to the presence of parking areas, roads and industrial development closer to the creek (**Figure 3**).

3.3 Precipitation

Recent precipitation data were compared to historic data for evaluating annual and monthly deviations from normal conditions. Simulated precipitation data were obtained from the Minnesota Climatology Working Group, Wetland Delineation Precipitation Data Retrieval from a Gridded Database (http://climate.umn.edu/gridded_data/precip/wetland/wetland.asp) for wetlands in Hennepin County, Township 29 North, Range 24 West, Section 20.

In 2015, antecedent moisture conditions were within the normal range based on precipitation for the three months prior to the November 25, 2015 site visit. These data were obtained from NRCS climate station 214884, NWS: Lower St. Anthony Falls Weather Station (**Table 1**). The water year has varied between normal and wet for the past six years but fell mostly into the wet range from 2010 through 2015 (**Table 2**).

3.4 National Wetland Inventory

The National Wetland Inventory (NWI) Map has identified Bassett Creek as riverine wetland. It was identified as a riverine (R) wetland, lower perennial (2), with an unconsolidated bottom (UB) that has an intermittently exposed hydrologic regime (G) or an R2UBG riverine wetland. A portion of Wetland 2 was mapped as a forested wetland (PFO1A) and Wetland 3 was mapped as an excavated emergent wetland (PEM1Ax). No other NWI wetlands were mapped within the Bassett Creek project area (**Figure 4**).

3.5 Water Resources

The Minnesota Department of Natural Resources (MnDNR) Public Waters Inventory (PWI) has identified Bassett Creek as a public water inventory watercourse (**Figure 5**). Three wetlands and the edges of Bassett Creek were delineated within the project area. Bassett Creek is identified by the Minnesota Pollution Control Agency (MPCA) as an impaired water because of the presence of chlorides and fish bioassessment results, with aquatic life as their affected use. Fecal Coliform is also noted as a pollutant with aquatic recreation as the affected use.

3.6 Soil Resources

Soil information for the project area was obtained from the Soil Survey of Hennepin County, Minnesota (USDA, 1974). Three soil map units were identified within the project area: Urban land-Udorthents, wet substratum, complex, 0 to 2 percent slopes, rarely flooded (U5A), Urban land-Lester complex, 2 to 18 percent slopes (L52C) and Udorthents, wet substratum, 0 to 2 percent slopes (U2A). All soils mapped within the project area or immediate adjacent areas are non-hydric (**Figure 6**).

4.0 Wetland Delineation

4.1 Wetland Delineation and Classification Methods

Wetlands within the project area were delineated and classified during a site visit on November 25, 2015. The wetland delineation was established according to the Routine On-Site Determination Method specified in the U.S. Army Corps of Engineers Wetlands Delineation Manual (1987 Edition) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (USACE, 2010).

The delineated wetland boundaries, sample points and creek edges were surveyed using a Global Positioning System (GPS) with sub-meter accuracy (**Figures 7 and 8**).

Wetlands were classified using the U.S. Fish and Wildlife Service (USFWS) Cowardin System (Cowardin et al., 1979), the USFWS Circular 39 system (Shaw and Fredine, 1956), and the Eggers and Reed Wetland Classification System (Eggers and Reed, 1977).

Soil borings were placed in and around the delineated wetlands, to a depth of at least 20 inches below the ground surface where possible. Representative soil samples from each boring were examined for the presence of hydric soil indicators using the Natural Resources Conservation Service (NRCS) hydric soil indicators (Version 6.0). Soil colors (e.g., 7.5YR 4/2, etc.) were determined using a Munsell® soil color chart and noted on the Wetland Data Forms **Appendix A**.

Hydrologic conditions were evaluated at each soil boring, and this information was also noted on the Wetland Data Forms. The dominant plant species were identified, and the corresponding wetland indicator status of each plant species was determined and noted on the Wetland Data Forms (**Appendix A**). Photographs taken at the time of the site visit are provided in **Appendix B**.

4.2 Wetland Descriptions

The creek channel and three wetlands were delineated within the project area. Descriptions and assessments of these delineated areas are provided below, with representative photographs in **Appendix B**.

4.2.1 Wetland 1

Wetland 1 is a Type 1 (PEMA), seasonally flooded basin within floodplain located within the west section of the project area within Bassett Creek Park (**Figure 7**). The surrounding area has steep and abrupt slopes leading into Wetland 1 and into Bassett Creek at this location. The abandoned Fruen Mill site is located on the opposite side (east side) of Bassett Creek from Wetland 1 and has flat topography. Flood waters likely encroach Wetland 1 during the growing season which is keeping herbaceous vegetation from proliferating.

There were no herbaceous plants at Wetland Sample Point 1-1 (SP 1-1 WET) because of periodic flooding of the basin. Tree species were present within 30 feet of SP 1-1 WET but were not directly within it.

Primary indicators of hydrology that were observed at the time of the site visit were high water table (A2), saturation (A3), sparsely vegetated concave surface (B6), and water-stained leaves (B9). Geomorphic position (D2) was the only secondary indicator of hydrology present.

Soils mapped at SP 1-1 WET and throughout Wetland 1 were identified as Urban Land-Lester complex, 2-18% slopes. Sampled soils were black at the surface with 5 percent redoximorphic concentrations down to 16 inches with clay loam textures. Soils from 16 inches to 21 inches were brown with 5 percent redoximorhic features with sandy textures. The hydric soil indicator at SP 1-1 WET is redox dark surface (F6).

The transition to upland was defined by the lack of hydrology and hydric soil indicators. Dominant vegetation in upland areas consisted of ash-leaf maple (*Acer negundo*, FAC), burr oak (*Quercus macrocarpa*, FAC) and common buckthorn (*Rhamnus cathartica*, FAC).

4.2.2 Wetland 2

Wetland 2 is a Type 3/6 (PEM/SS1C), shallow marsh and shrub-carr wetland located in the west section of the project area approximately 500 feet downstream from Wetland 1 (**Figure 7**). Wetland 2 is a sloping wetland that appears to be fed by groundwater seepage coming from adjacent uplands. Several small channels extend through the wetland and connect to Bassett Creek.

There was no herbaceous plants at SP 2-1 WET likely die to soil saturation from the groundwater seepage. The remaining area of Wetland 2 was dominated by reed canary grass (*Phalaris arundinacea*, FACW) and narrow-leaf cattail (*Typha angustifolia*, OBL).

Primary indicators of hydrology that were observed were high water table (A2), and saturation (A3). Geomorphic position (D2) was the only secondary indicator of hydrology present at SP 2-1 WET.

Soils mapped at SP 2-1 WET and throughout Wetland 2 were identified as Urban Land-Lester complex, 2-18% slopes. Sampled soils were black mucky-mineral soils down to 10 inches. Soils from 10 inches to 15 inches were brown clays, which became gleyed starting at 15 inches again with clay textures. The hydric soil indicator at SP 2-1 WET is loamy mucky mineral (F1).

The transition to upland was defined by the lack of hydrology and hydric soil indicators. Dominant vegetation in upland areas consisted of burr oak (*Quercus macrocarpa*, FAC) and common buckthorn (*Rhamnus cathartica*, FAC).

4.2.3 Wetland 3

Wetland 3 is a Type 1/3 (PEMA/Fx), seasonally flooded basin and shallow marsh wetland located in the east section of the project area (**Figure 8**). Wetland 3 is an excavated linear wetland with a subsurface connection to Bassett Creek at its south end. Topography within Wetland 3 has a gradual decent from the south end to the north end where it then connects to the old Bassett Creek tunnel entrance at Second Avenue North and continues in a northerly direction underground.

Dominant plants at SP 3-1 WET were late goldenrod (*Solidago gigantea*, FACW), and reed canary grass. Dominant plants at the south end of Wetland 3 were late goldenrod, reed canary grass, and a species of willow (*Salix sp.*). The dominant species within the north-central portion of Wetland 3 was narrow-leaf cattail. There was also a section of non-vegetated open water at the north end of Wetland 3 at the tunnel entrance.

No primary indicators of hydrology were observed at SP 3-1 WET. Secondary indicators of hydrology observed were geomorphic position (D2), and a positive FAC-neutral test (D5).

Soils mapped at SP 3-1 WET and throughout Wetland 3 were identified as Urban Land-Udorthents, wet substratum, 0-2% slopes. Sampled soils were black sandy clay loam down to 2 inches, then transitioned to very dark grayish brown loamy sand with 2 percent redoximorphic features down to 8 inches. From 8 to 15 inches soils were returned to black but with a more yellow hue than the surface layer and had a loamy sand texture and 2 percent redoximorphic features. The hydric soil indicators at SP 3-1 WET are sandy redox (S5) and redox dark surface (F6).

The transition to upland was defined by the lack of hydrology and hydric soil indicators. Dominant vegetation in upland areas consisted of Kentucky bluegrass (*Poa pratensis*, FAC).

4.2.4 Delineated Creek Channel

Within the project area, Bassett Creek is a low-gradient, channelized stream that flows through an unconfined alluvial valley that was historically occupied by wetlands in places.

Bassett Creek in the project area has an approximate average bankfull depth of 2.5 to 3 feet, and an approximate bankfull width of 25 to 30 feet. The stream is channelized throughout the project area and does not include any significant meandering; the stream is confined to a channel with lower banks between 2.5 feet and 6.5 feet high with little or no floodplain.

Water flow within the creek channel had a slow to medium velocity and substrate was sandy and rocky in most of the shallow areas and more silty in deeper areas. No emergent, or aquatic plants were observed within the creek channel. Mixed hardwood trees and shrubs were dominant at higher elevations adjacent to the creek.

Within the project area, the entire creek channel was delineated as a linear waterway and classified using the USFWS Cowardin System. The creek channel within the project area was classified as an R2UBG linear waterway (**Figures 7 and 8**), which concurs with the NWI designation.

5.0 Regulatory Overview

The USACE regulates the placement of dredge or fill materials into wetlands that are located adjacent to or are hydrologically connected to interstate or navigable waters under the authority of Section 404 of the Clean Water Act. If the USACE has jurisdiction over any portion of a project, they may also review impacts to wetlands under the authority of the National Environmental Policy Act.

Filling, excavating, and draining wetlands are also regulated by the Minnesota Wetland Conservation Act (WCA), and the Minnesota Public Waters Inventory Program, which are administered by the City of Minneapolis and the Minnesota Department of Natural Resources (DNR) respectively. The USACE, the City of Minneapolis and the DNR should be contacted before altering any wetlands within the project area. In addition, delineated wetland boundaries may be reviewed, if needed, by a Technical Evaluation Panel (TEP) consisting of representatives from the Minnesota Board of Water and Soil Resources, and Hennepin County, along with the City of Minneapolis, DNR and USACE.

6.0 References

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- U.S. Fish and Wildlife Service. 1956. *Wetlands of the United States Circular 39*. U.S. Government Printing Office, Washington, D.C.

Tables

Table 1Antecedent Moisture Conditions Prior to November 25, 2015 Site VisitBasset Creek Restoration Project Feasibility Study Wetland DelineationMinneapolis, MN

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:							
County: Hennepin Township Number: 29N							
Township Name: unnamed	Range Number: 24W						
Nearest Community: Glenwood Junction	Section Number: 20						

Aerial photograph or site visit date:

Wednesday, November 25, 2015

Score using 1981-2010 normal period

(value are in inches)	first prior month: October 2015	second prior month: September 2015	third prior month: August 2015
estimated precipitation total for this location:	2.77	3.75	3.15
there is a 30% chance this location will have less than:	1.33	2.16	3.51
there is a 30% chance this location will have more than:	3.64	3.97	5.08
type of month: dry normal wet	normal	normal	dry
monthly score	3 * 2 = 6	2 * 2 = 4	1 * 1 = 1
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)		11 (normal)	

Table 2Precipitation in Comparison to WETS DataBasset Creek Restoration Project Feasibility Study Wetland DelineationMinneapolis, MN

Precipitation data for target wetland location: County: Ramsey Township Number: 29N

County. Ramsey	Township Number. 29N				
Township Name: unnamed	Range Number: 24W				
Nearest Community: Glenwood Junction	Section Number: 20				

Precipitation Totals are in Inches								
Color Key	Multi-month Totals:							
total is in lowest 30th percentile of the period-of-record distribution	WARM = warm season (May thru September)							
total is => 30th and <= 70th percentile	ANN = calendar year (January thru December)							
total is in highest 30th percentile of the period-of-record distribution	WAT = water year (Oct. previous year thru Sep.							
	present year)							

						Period-of	-Record	Summary	Statistic	s					
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WARM	ANN	WAT
30%	0.52	0.49	1.11	1.63	2.57	3.14	2.33	2.57	1.94	1.23	0.71	0.55	16.05	25.99	26.20
70%	1.06	1.13	2.03	2.87	4.20	5.46	4.56	4.43	3.74	2.60	1.84	1.35	21.34	32.49	31.60
mean	0.89	0.89	1.66	2.41	3.63	4.46	3.81	3.60	3.04	2.20	1.53	1.03	18.53	29.14	29.14
						1981-	2010 Sun	nmary Sta	tistics						
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WARM	ANN	WAT
30%	0.54	0.41	1.37	2.18	2.66	3.57	2.81	3.51	2.16	1.33	1.09	0.70	18.11	30.39	28.23
70%	1.23	1.03	2.06	3.05	4.11	5.30	4.97	5.08	3.97	3.64	2.10	1.54	22.11	34.59	36.30
mean	0.90	0.79	1.93	2.84	3.65	4.56	4.41	4.20	3.44	2.61	1.87	1.25	20.26	32.45	32.26
							Year-to-	Year Data					-		
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WARM	ANN	WAT
2015	0.32	0.31	0.70	2.20	4.45	3.72	6.89	3.15	3.75	2.77	4.31	2.10	21.96	34.67	28.82
2014	1.11	1.32	0.76	6.80	4.05	10.19	2.95	2.82	2.03	1.16	1.13	1.04	22.04	35.36	38.41
2013	0.81	1.19	1.99	4.53	5.22	7.39	4.26	1.92	1.25	4.21	0.62	1.55	20.04	34.94	32.43
2012	0.57	1.91	1.54	3.07	9.09	3.72	4.82	1.54	0.42	1.33	0.94	1.60	19.59	30.55	28.78
2011	0.97	1.06	2.46	3.20	5.31	4.45	7.18	4.09	0.56	0.95	0.24	0.91	21.59	31.38	36.42
2010	0.65	0.81	0.91	2.14	2.71	6.53	4.59	6.55	6.07	1.93	1.86	3.35	26.45	38.10	39.94
2009	0.54	1.13	1.73	1.62	0.35	3.32	1.21	6.54	0.63	6.04	0.55	2.39	12.05	26.05	21.69
2008	0.15	0.55	2.04	4.15	2.51	3.90	2.09	2.52	2.12	1.71	1.33	1.58	13.14	24.65	27.10
2007	0.68	1.56	3.67	2.14	3.05	1.97	2.36	6.51	5.46	5.04	0.11	1.92	19.35	34.47	31.34
2006	0.92	0.39	1.81	3.56	3.30	3.68	2.55	6.69	2.97	0.59	1.06	2.29	19.19	29.81	33.87
2005	1.33	1.11	1.25	2.75	3.42	5.52	3.11	3.97	6.41	4.88	1.72	1.40	22.43	36.87	34.26
2004	0.54	1.62	2.26	2.97	6.01	3.83	4.14	1.40	4.66	3.75	1.11	0.53	20.04	32.82	30.52
2003	0.35	0.93	1.76	2.85	5.76	7.90	1.83	0.42	2.02	0.93	1.18	0.98	17.93	26.91	28.31
2002	0.53	0.61	2.11	3.95	3.65	8.50	5.84	6.14	3.90	4.13	0.07	0.29	28.03	39.72	40.03
2001	1.34	1.51	1.07	7.39	5.67	5.14	2.28	2.73	4.12	0.95	3.17	0.68	19.94	36.05	38.10
2000	0.99	1.18	1.17	1.38	4.18	3.78	6.68	3.71	3.20	1.13	4.19	1.53	21.55	33.12	28.04
1999	1.48	0.35	1.93	3.62	6.69	5.21	5.21	3.82	2.93	0.60	0.81	0.36	23.86	33.01	36.25
1998	1.49	0.71	3.73	2.20	4.32	4.66	2.86	4.88	1.06	2.76	1.70	0.55	17.78	30.92	29.03
1997	1.71	0.15	1.52	1.11	1.92	3.95	12.53	5.18	2.89	2.01	0.85	0.26	26.47	34.08	42.13
1996	2.13	0.23	1.80	0.80	3.47	3.93	1.87	1.32	1.49	3.91	5.56	1.70	12.08	28.21	24.68

Figures







FIGURE 1

PROJECT LOCATION Main Stem Stabilization-Delineation Bassett Creek Watershed Management Commission



Delineated Wetland
Stream Channel

- 10-Foot Contour
- 2-Foot Contour

Aerial Imagery: MN DNR 2012





FIGURE 2

TOPOGRAPHY (WEST) Main Stem Stabilization-Delineation Bassett Creek Watershed Management Commission



- 10-Foot Contour
- 2-Foot Contour

Aerial Imagery: MN DNR 2012

TOPOGRAPHY (EAST) Main Stem Stabilization-Delineation Bassett Creek Watershed Management Commission

Bassett Creek

--- Bassett Creek Tunnel

Wetlands (MN DNR NWI East Central Update)

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Aerial Imagery: FSA 2013

NATIONAL WETLANDS INVENTORY (NWI) MN DNR EAST CENTRAL UPDATE Main Stem Stabilization-Delineation Bassett Creek Watershed Management Commission

- Public Water Inventory Watercourse
- Bassett Creek
- --- Bassett Creek Tunnel

Aerial Imagery: FSA 2013

PUBLIC WATER INVENTORY (PWI) Main Stem Stabilization-Delineation Bassett Creek Watershed Management Commission

Bassett Creek

--- Bassett Creek Tunnel

Aerial Imagery: FSA 2013

Note: All soils within this view extent have a Hydric Rating of 0.

SOIL SURVEY Main Stem Stabilization-Delineation Bassett Creek Watershed Management Commission

Aerial Imagery: MN DNR 2012

WETLAND AND CREEK DELINEATION (WEST) Main Stem Stabilization-Delineation Bassett Creek Watershed Management Commission

Aerial Imagery: MN DNR 2012

MeriLAND AND CREEK DELINEATION (EAST) Main Stem Stabilization-Delineation Bassett Creek Watershed Management Commission

Appendix A

Wetland Data Forms

Project/Site:	Basset C	Creek R	estoration		Applicant/O	wner: BCWMC	City/County:	<u>Minneap</u> pin	olis/Henne State: MN	Sam	pling Date:	<u>11/25/15</u>
Investigator(s):	<u>BKB</u>				Section:	<u>20</u>	Township: 2	<u>29</u>	Range: <u>24</u>	Sam	pling Point:	<u>1-1 UPL</u>
Land Form:	<u>Hillslope</u>	2			Local Relie	f: <u>Concave</u>	Slope %: <u>1</u>	<u>15</u>	Soil Map Unit Name: <u>U</u>	Irban Land	-Lester com	plex 2-18% slopes
Subregion (LRR)	: <u>M</u>				Latitude:	<u>4980800</u>	Longitude: 4	47 <u>5173</u>	Datum: UTI	M Nad 83	Zone 15N	
Cowardin Classif	fication:	<u>Uplar</u>	<u>nd</u>		Circular 39	Classification: Upland			Mapped NWI Classific	cation:	None mappe	ed
Are climatic/hydro	ologic cond	litions o	n the site	typical for this	time of year	r? <u>Yes</u> (If no, expl	ain in remarks)		Eggers & Reed (prima	ary):	Upland	
Are vegetation	No	Soil	No	Hvdroloav	No	significantly disturbed?	Are "normal	Yes	Eggers & Reed (secor	ndary):		
				,			present?	8	Eggers & Reed (tertial	ry):		
Are vegetation	<u>No</u>	Soil	<u>No</u>	Hydrology	<u>No</u> n	naturally problematic?			Eggers & Reed (quate	ernary):		

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

Hydrophytic vegetation present?	Yes	General Remarks
Hydric soil present?	No	(explain any
Indicators of wetland hydrology present?	No	answers ir needed):
Is the sampled area within a wetland?	<u>No</u>	If yes, optional Wetland Site ID: Upland

VEGETATION

1. 2. 3. 4.	Tree Stratum Quercus macrocarpa Acer negundo	(Plot Size:	<u>30 ft</u>)	Absolute % Cover 10 5 0 0 45	Dominant Species? Yes Yes	Indicator Status FAC FAC	50/20 Thresholds: Tree Stratum Sapling/Shrub Stra Herb Stratum Woody Vine Stratu Dominance Test W	tum m <u>'orksheet:</u> nt Species		20% 3 5.2 0.8 0	50% 7.5 13 2 0
1. 2. 3. 4.	Sapling/Shrub Stratum Rhamnus cathartica Celtis occidentalis	(Plot Size:	<u>15 ft</u>)	25 1 0 0	Yes No	FAC FAC	Number of Dominant Species That Are OBL, FACW or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW or FAC:			3 (A) 3 (B) 00% (A/	В)
5.	Herb Stratum	(Plot Size:	Total Cover: 5 ft)	0 <u>26</u>			Prevalence Index W Total % Cov OBL Species	<u>'orksheet:</u> 'er of: 0	X 1	Multiply b	y: 0
 1. 2. 3. 4. 5. 6. 7. 	Ageratina altissima Geranium maculatum			2 2 0 0 0 0	No No	FACU FACU	FACW Species FAC Species FACU Species UPL Species Column Totals: Prev	0 41 4 0 45 ralence Index =	X 2 X 3 X 4 X 5 (A) B/A =		0 123 16 0 139 (B) 3.09
8. 1. 2. % B	<u>Woody Vine Stratum</u>	(Plot Size:	Total Cover: <u>30 ft</u>) Total Cover:	0 4 0 0 0 0 0 0 0 8 8 9 8 9 8 9 8 9 8 9 8 9	m Moss Cove	r:	Hydrophytic Vegeta No Rapid Te Yes Dominar No Prevalen No Morphol in vegeta No No Problem [1] Indicators of hydric disturbed or problemat	tion Indicators: http://www.starstarstarstarstarstarstarstarstarstar	ytic Veget % [1] ons [1] (p r on a sep ic Vegetati drology mus	ation rovide supp arate sheet, ion [1] (Expl st be present,	oorting data) lain) unless
Veg Deli	etation Remarks: (include p	hoto numbers	s here or on a separate vason	sheet)			Hydrophytic vegetati	on present?	<u>Yes</u>		

ile Deservictions (Describe to the desthese		la aumant tha Indianta			findlests	1		
Ile Description: (Describe to the depth no	eeded to a	locument the indicator or	confirm th dox Featu	ie abscence (res	of indicators).		
(inches) Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Rema	rks
0 - 7 10YR 2/2						Sandy Loam		
7 - 14 7.5YR 4/4						Sandy Clay Loam		
14 - 20 7.5 YR 2.5/1	97	7.5YR 5/8	3	С	М	Clay Loam		
<u> </u>								
Type: C=Concentration, D=Depletion, RM	I=Reduced	Matrix, MS=Masked Sand	l Grains	[2] Location	: PL=Pore L	.ining, M=Matrix.		
dric Soil Indicators: (applicable to all LRR	s, unless (otherwise noted)			Ind	icators for Problematic Hydric So	ils [3]:	
Histosol (A1)		📃 Sandy G	leyed Matr	ix (S4)		Coast Prairie Redox (A16)		
Histic Epipedon (A2)		Sandy R	edox (S5)	. ,		Dark Surface (S7)		
Black Histic (A3)		Stripped	Matrix (S6)		Iron-Manganese Masses (F12)		
Hvdrogen Sulfide (A4)		Loamv N	luckv Mine	, ral (F1)		Verv Shallow Dark Surface (TF12)		
Stratified Lavers (A5)			leved Matr	rix (F2)		Other (explain in soil remarks)		
2 cm Muck (A10)			Matrix (F3	3)				
Depleted Below Dark Surface (A11)		Beday D	ark Surface	~/ e (E6)				
Thick Dark Surface (A12)			l Dark Surf	ace (F7)				
Sandy Musky Minaral (S1)					[3]	Indicators of hydrophytic vegetat	ion and wetland	hydrolo
			epressions	s (FO)	mu	st be present, unless disturbed or	r problematic.	
estrictive Layer (if present): Type:		Дер	th (inches	s):		Hydric soil present?	No	
astrictive Layer (if present): Type:		Дер	th (inches	s):	_	Hydric soil present?	No	
estrictive Layer (if present): Type:		Dep	th (inches	s):		Hydric soil present?	<u>No</u>	
estrictive Layer (if present): Type: il Remarks: 'DROLOGY etland Hydrology Indicators:		Dep	th (inches	s):		Hydric soil present?	<u>No</u>	
estrictive Layer (if present): Type: bil Remarks: 'DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required	l; check all	Dep	th (inches	s):		Hydric soil present?	<u>No</u>	
estrictive Layer (if present): Type: nil Remarks: 'DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required	l; check all	Dep	th (inches	s):		Hydric soil present? condary Indicators (minimum of two Surface Soil Cracks (R6)	<u>No</u>	
etland Hydrology Indicators: imary Indicators (minimum of one required Surface Water (A1)	l; check all		th (inches	s):		Hydric soil present? condary Indicators (minimum of tv Surface Soil Cracks (B6)	<u>No</u>	
etland Hydrology Indicators: imary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Solumetics (A2)	l; check all		th (inches res (B9)	s):		Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10)	<u>No</u> vo required)	
estrictive Layer (if present): Type:	l; check all		th (inches res (B9) 3) (B14)	s):		Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2)	<u>No</u>	
estrictive Layer (if present): Type:	l; check all		th (inches res (B9) 3) (B14) dor (C1)	s):	See	Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)	No vo required)	
estrictive Layer (if present): Type:	l; check all	Ithat apply) Water-Stained Leav Aquatic Fauna (B13 True Aquatic Plants Hydrogen Sulfide O Oxidized Rhizosphe	th (inches res (B9) 3) (B14) dor (C1) res on Livin	s):	See	Hydric soil present? condary Indicators (minimum of tv Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery	No vo required)	
estrictive Layer (if present): Type:	l; check all		th (inches res (B9)) (B14) dor (C1) res on Livin ed Iron (C4)	s):	See	Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1)	No vo required) ((C9)	
estrictive Layer (if present): Type: il Remarks: 'DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	l; check al.	I that apply) Water-Stained Leav Aquatic Fauna (B13) True Aquatic Plants Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct	th (inches res (B9) 3) dor (C1) res on Livin ed Iron (C4, ion in Tilleo	s): ng Roots (C3)) 1 Soils (C6)	See	Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2)	No vo required) ((C9)	
estrictive Layer (if present): Type:	l; check al.	Ithat apply) Water-Stained Leav Aquatic Fauna (B13 True Aquatic Plants Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reduct Thin Muck Surface	th (inches res (B9) 3) dor (C1) eres on Livii ed Iron (C4) ion in Tilleo (C7)	s): ng Roots (C3)) I Soils (C6)	Sea	Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)	No vo required)	
estrictive Layer (if present): Type:	1; check alı		th (inches th (inches res (B9)) (B14) dor (C1) tres on Livin ed Iron (C4, ion in Tilleo (C7) (C9)	s): ng Roots (C3)) I Soils (C6)	See	Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)	No wo required)	
estrictive Layer (if present): Type:	l; check al	I that apply) Water-Stained Leave Aquatic Fauna (B13) True Aquatic Plants Hydrogen Sulfide O Oxidized Rhizosphee Presence of Reduct Recent Iron Reduct Thin Muck Surface Gauge or Well Data Other (explain in rei	th (inches th (inches res (B9)) (B14) dor (C1) tres on Livit dor (C1) tres on Livit ed Iron (C4) ion in Tilleo (C7) tres (C7) tres (D9) marks)	s): ng Roots (C3)) 1 Soils (C6)	See	Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)	No wo required)	
estrictive Layer (if present): Type:	l; check al	Ithat apply) Water-Stained Leav Aquatic Fauna (B13 True Aquatic Plants Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct Thin Muck Surface Gauge or Well Data Other (explain in red	th (inches th (inches res (B9)) (B14) dor (C1) tres on Livin ed Iron (C4, ion in Tilleo (C7) (C7) (D9) marks)	s): ng Roots (C3)) I Soils (C6)	See	Hydric soil present? Condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) Indicators of wetland hydrolog	No vo required) r (C9) gy present?	
estrictive Layer (if present): Type:	1; check al.	I that apply) I that apply) Water-Stained Leav Aquatic Fauna (B13) True Aquatic Plants Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct Thin Muck Surface Gauge or Well Data Other (explain in ren	th (inches th (inches res (B9) (B14) dor (C1) res on Livin dor (C1) res on Livin dor (C4) ion in Tilleo (C7) (D9) marks) inches):	s): ng Roots (C3)) I Soils (C6)	Sec	Hydric soil present? Econdary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) Indicators of wetland hydrolog Describe Recorded Data:	No vo required) ((C9) gy present?	<u>No</u>
estrictive Layer (if present): Type:	<i>I; check al</i>		th (inches th (inches res (B9) (B14) dor (C1) res on Livin ed Iron (C4) ion in Tilleo (C7) (C7) n (D9) marks) inches): ches):	s): ng Roots (C3)) 1 Soils (C6)	Sea	Hydric soil present? condary Indicators (minimum of two Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) Indicators of wetland hydrolog Describe Recorded Data:	No vo required) ((C9) gy present?	<u>No</u>

Project/Site:	<u>Basset C</u>	Creek R	estoratio	<u>on</u>	Applicant/O	wner: <u>BCWMC</u>	City/County:	Minneap nin	oolis/Henne State:	<u>MN</u>	Sampling Date: <u>11/25/15</u>
Investigator(s):	<u>BKB</u>				Section:	<u>20</u>	Township:	<u>29</u>	Range:	<u>24</u>	Sampling Point: <u>1-1 WET</u>
Land Form:	<u>Flat</u>				Local Relie	f: <u>None</u>	Slope %:	<u>0</u>	Soil Map Unit Name	<u>Urban I</u>	Land-Lester complex 2-18% slopes
Subregion (LRR)	: <u>M</u>				Latitude:	<u>4980799</u>	Longitude:	<u>475177</u>	Datum:	UTM Nac	<u>d 83 Zone 15N</u>
Cowardin Classii	ication:	PEM	<u>A</u>		Circular 39	Classification: <u>Type 1</u>			Mapped NWI Cla	ssification:	None mapped
Are climatic/hydro	ologic cond	litions o	n the si	te typical for this	time of year	r? <u>Yes</u> (If no, expl	ain in remarks)	Eggers & Reed (orimary):	Seasonally Flooded Basin
Are vegetation	No	Soil	No	Hydrology	No	significantly disturbed?	Are "normal	Yes	Eggers & Reed (secondary):
		0."					present?	53	Eggers & Reed (tertiary):	,
Are vegetation	<u>Yes</u>	Soil	<u>N0</u>	Hydrology	<u>No</u> n	naturally problematic?			Eggers & Reed (quaternary):

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

Hydrophytic vegetation present?	Yes	General Remarks	No herbaceous plants were present due to periodic flooding of Basset Creek.
Hydric soil present?	Yes	(explain any	
Indicators of wetland hydrology present?	Yes	answers if needed):	
Is the sampled area within a wetland?	<u>Yes</u>	lf yes, optional Wetla	and Site ID: Wetland 1

VEGETATION

	<u>Tree Stratum</u>	(Plot Size:	<u>30 ft</u>)	<u>Absolute</u> <u>% Cover</u>	<u>Dominant</u> <u>Species?</u>	<u>Indicator</u> <u>Status</u>	<u>50/20 Thresholds:</u> Tree Stratum	<u>20%</u> 1.4	<u>50%</u> 3.5
1	Quercus macrocarpa			5	Yes	FAC	Sapling/Shrub Stratum	0	0
2	Acer negundo			2	No	FAC	Herb Stratum	0	0
3				0		1710	Woody Vine Stratum	0	0
4.				0			Dominance Test Worksheet:		
			Total Cover:	7			Number of Dominant Species		
	Sanling/Shruh Stratum	(Plot Size:	15 ft)	_			That Are OBL, FACW or FAC:	1 (A)	
1.		(110101201	<u>1011</u>)	0			Total Number of Dominant Species Across All Strata:	1 <i>(B)</i>	
2.				0			Percent of Dominant Species		
3.				0			That Are OBL, FACW or FAC: 100.	00% (A/B)	
4. 5.				0			Prevalence Index Worksheet:		
			Total Cover:	<u>0</u>			Total % Cover of:	Multiply by:	
	Herb Stratum	(Plot Size:	<u>5 ft</u>)				OBL Species 0 X 1		0
1.			,	0			FACW Species 0 X 2		0
2.				0			FAC Species7 × 3		21
3.				0			FACU Species 0 X 4		0
4.				0			UPI Species 0 X 5		0
5.				0			Column Totolo: 7 (A)	-	21 (B)
6.				0			$\frac{1}{2} = \frac{1}{2} = \frac{1}$		00
7.				0			Hydrophytic Vegetation Indicators:		00
8.			T-(-) 0	0			No. Denid Teet for Hudronbutie Very	. totion	
			l otal Cover:	<u>0</u>			No Rapid Test for Hydrophytic Vege	tation	
	Woody Vine Stratum	(Plot Size:	<u>30 ft</u>)				Yes Prevalence Index < 3.0.11		
1.				0			No Morphological Adaptations [1]	provide suppo	rting data
2.				0			in vegetation remarks or on a se	parate sheet)	
			Total Cover:	<u>0</u>			No Problematic Hydrophytic Vegeta	ition [1] (Explai	in)
% B	are Ground in Herb Stratur	n: <u>100</u>	_	% Sphagnu	m Moss Cove	r:	[1] Indicators of hydric soil & wetland hydrology m disturbed or problematic.	ust be present, u	nless
Veg	etation Remarks: (include	photo numbers	here or on a separate	sheet)			Hydrophytic vegetation present? Yes		
No I	erbaceous plants were pres	ent due to perio	dic flooding of Basset Cre	eek.					
			0						

ile Description: (Describe to the depth neede	ed to do	ocument the indicator or co	onfirm the	e abscence	of indicators	;).	
Depth Matrix		Redo	ox Featur	res	1 00 [2]	Toxture	Pomorko
(incres) Color (moist) 7	٥ –		<u>%</u>	1 ype [1]		Texture	Remarks
<u> </u>	95	7.5YR 4/6	5	<u> </u>	M	Sand	
-		1.511(4)0			IVI	ound	
						· · ·	
Type: C=Concentration, D=Depletion, RM=Re	duced	Matrix, MS=Masked Sand (Grains	[2] Locatior	: PL=Pore	Lining, M=Matrix.	
dric Soil Indicators: (applicable to all LRRs, u	nless o	therwise noted)			Inc	licators for Problematic Hydric So	oils [3]:
Histosol (A1)		Sandy Gle	yed Matrix	ix (S4)		Coast Prairie Redox (A16)	
] Histic Epipedon (A2)		Sandy Red	dox (S5)			Dark Surface (S7)	
Black Histic (A3)		Stripped N	latrix (S6))		Iron-Manganese Masses (F12)	
Hydrogen Sulfide (A4)		🗌 Loamy Mu	icky Miner	ral (F1)		Very Shallow Dark Surface (TF12)	
Stratified Layers (A5)		Loamy Gle	eyed Matri	ix (F2)		Other (explain in soil remarks)	
2 cm Muck (A10)		Depleted N	Matrix (F3))			
Depleted Below Dark Surface (A11)		Redox Dai	rk Surface	э (F6)			
Thick Dark Surface (A12)		Depleted [Dark Surfa	ace (F7)			
Sandy Mucky Mineral (S1)		Redox Dei	oressions	(F8)	[3]	Indicators of hydrophytic vegeta	tion and wetland hydrolo
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type:		Depth	h (inches	·):		Hydric soil present?	Yes
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type:		Depth	'ı (inches	;):		Hydric soil present?	Yes
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: pil Remarks: /DROLOGY		Depth	n (inches	:):		Hydric soil present?	Yes
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: bil Remarks: //DROLOGY		Depth	h (inches	;):		Hydric soil present?	Yes
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: bil Remarks: /DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required; ch	eck all t	Depth	i (inches	;); 		Hydric soil present? Hydric soil present? condary Indicators (minimum of t	Yes
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: bil Remarks: //DROLOGY fetland Hydrology Indicators: rimary Indicators (minimum of one required; chr Surface Water (A1)	eck all 1	Depth	r (inches)	;):		Hydric soil present? Hydric soil present? condary Indicators (minimum of t	Yes two required)
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: pil Remarks: //DROLOGY fetland Hydrology Indicators: rimary Indicators (minimum of one required; chr) Surface Water (A1) High Water Table (A2)	eck all t	Depth that apply) ✓ Water-Stained Leaves □ Aquatic Fauna (B13)	n (inches) s (B9)	;);		Hydric soil present? Hydric soil present? condary Indicators (minimum of t Surface Soil Cracks (B6) Drainage Patterns (B10)	Yes two required)
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: bil Remarks: //DROLOGY etland Hydrology Indicators: fimary Indicators (minimum of one required; chi Surface Water (A1) High Water Table (A2) Saturation (A3)	eck all t	Depth that apply) ✓ Water-Stained Leaves Aquatic Fauna (B13) True Aquatic Plants (I	n (inches) s (B9) B14)	;);		Hydric soil present? Hydric soil present? condary Indicators (minimum of t Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2)	Yes two required)
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: bil Remarks: //DROLOGY fetland Hydrology Indicators: rimary Indicators (minimum of one required; chr Surface Water (A1) Surface Water Table (A2) Saturation (A3) Water Marks (B1)	eck all t		i (inches, s (B9) B14) or (C1)	;);		Hydric soil present? Hydric soil present? condary Indicators (minimum of t Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)	Yes
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: bil Remarks: //DROLOGY //DROLOGY //OROLOGY //OROLOG/ //OROLOGY	eck all t	Depth that apply) ✓ Water-Stained Leaves Aquatic Fauna (B13) True Aquatic Plants (I Hydrogen Sulfide Odd Oxidized Rhizosphere	s (B9) B14) or (C1) es on Livin	;):		Hydric soil present? Hydric soil present? condary Indicators (minimum of t Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imager	Yes two required)
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: bil Remarks: //DROLOGY fetland Hydrology Indicators: rimary Indicators (minimum of one required; chr] Surface Water (A1)] High Water Table (A2)] Saturation (A3)] Water Marks (B1)] Sediment Deposits (B2)] Drift Deposits (B3)	eck all 1		i (inches) s (B9) B14) or (C1) es on Livin I Iron (C4)	;):		Hydric soil present? Hydric soil present? condary Indicators (minimum of t Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imager Stunted or Stressed Plants (D1)	<u>Yes</u> two required) ry (C9)
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: bil Remarks: //DROLOGY //DROLOGY //OROLOGY	eck all t	Depth that apply) ✓ Water-Stained Leaves Aquatic Fauna (B13) True Aquatic Plants (I Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction	a (inches, a (inches, s (B9) B14) or (C1) es on Livin I Iron (C4) n in Tilled	i): ng Roots (C3)) Soils (C6)		Hydric soil present? Hydric soil present? condary Indicators (minimum of t Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imager Stunted or Stressed Plants (D1) Geomorphic Position (D2)	Yes two required)
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type:	eck all		a (inches) a (inches) s (B9) B14) or (C1) es on Livin I Iron (C4) n in Tilled 27)	ng Roots (C3)		Hydric soil present? Hydric soil present? condary Indicators (minimum of t Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imager Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)	<u>Yes</u> two required) ην (C9)
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: bil Remarks: //DROLOGY fetland Hydrology Indicators: rimary Indicators (minimum of one required; chr Surface Water (A1) Surface Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imageny (B7)	eck all i	Depth that apply) Image: Water-Stained Leaves Aquatic Fauna (B13) True Aquatic Plants (H Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Thin Muck Surface (C Gauge or Well Data (I	in (inches, in (inches, s (B9) B14) or (C1) es on Livin I Iron (C4) n in Tilled :7) D9)	ng Roots (C3)		Hydric soil present? Hydric soil present? Condary Indicators (minimum of t Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imager Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)	Yes two required)
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: pil Remarks: /DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required; chr) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	eck all	Depth that apply) ✓ Water-Stained Leaves Aquatic Fauna (B13) True Aquatic Plants (I Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Thin Muck Surface (C Gauge or Well Data (I Other (explain in remaining)	a (inches) a (inches) s (B9) B14) or (C1) es on Livin l Iron (C4) n in Tilled c7) D9) arks)	ng Roots (C3)		Hydric soil present? Hydric soil present? Condary Indicators (minimum of t Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imager Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)	Yes two required)
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: pil Remarks: /DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required; chr Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	eck all	Depth that apply) Image: Water-Stained Leaves Aquatic Fauna (B13) True Aquatic Plants (L Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Thin Muck Surface (C Gauge or Well Data (L Other (explain in remain	a (inches, s (B9) B14) or (C1) Pas on Livin I Iron (C4) n in Tilled T(C4) n in Tilled (7) D9) arks)	ng Roots (C3)		Hydric soil present? Hydric soil present? Condary Indicators (minimum of t Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imager Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)	<u>Yes</u> two required) ry (C9)
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: pil Remarks: /DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required; chr.) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) eld Observations: urface water present?	eck all	Depth that apply) ✓ Water-Stained Leave: Aquatic Fauna (B13) True Aquatic Plants (I Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Thin Muck Surface (C Gauge or Well Data (I Other (explain in remains)	a (inches) a (inches) s (B9) B14) or (C1) es on Livin I Iron (C4) n in Tilled :7) D9) arks) ches):	i): ng Roots (C3)) ! Soils (C6)		Hydric soil present? Hydric soil present? Condary Indicators (minimum of t Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imager Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) Indicators of wetland hydroloc Describe Recorded Data:	<u>Yes</u> two required) γ (C9)
5 cm Mucky Peat or Peat (S3) estrictive Layer (if present): Type: bil Remarks: /DROLOGY etland Hydrology Indicators: timary Indicators (minimum of one required; chr) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) eld Observations: urface water present?	eck all	that apply) Water-Stained Leave: Aquatic Fauna (B13) True Aquatic Plants (B Hydrogen Sulfide Odd Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Thin Muck Surface (C Gauge or Well Data (B Other (explain in rema Surface Water Depth (inch	in (inches) in (inches) is (B9) B14) or (C1) es on Livin I Iron (C4) n in Tilled in Ti	i): ng Roots (C3)) ! Soils (C6)		Hydric soil present? Hydric soil present? Condary Indicators (minimum of t Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imager Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) Indicators of wetland hydrolog Describe Recorded Data:	<u>Yes</u> two required) ry (C9)

Project/Site:	Basset C	reek R	estoration		Applicant/O	Owner: <u>BCWMC</u>	City/County:	<u>Minneap</u> pin	olis/Henne State:	<u>MN</u>	Sampling Date: <u>11/25/15</u>
Investigator(s):	<u>BKB</u>				Section:	<u>20</u>	Township:	<u>29</u>	Range:	<u>24</u>	Sampling Point: 2-1 UPL
Land Form:	<u>Hillslope</u>	<u>)</u>			Local Relie	ef: <u>Concave</u>	Slope %:	3	Soil Map Unit Name	: <u>Urban I</u>	and-Lester complex 2-18% slopes
Subregion (LRR)	: <u>M</u>				Latitude:	<u>4980643</u>	Longitude:	<u>475260</u>	Datum:	UTM Nac	<u>183 Zone 15N</u>
Cowardin Classif	ication:	<u>Uplar</u>	nd		Circular 39	Classification: Upland			Mapped NWI Cla	ssification:	None mapped
Are climatic/hydro	ologic cond	litions o	n the site	typical for this	time of year	r? <u>Yes</u> (If no, exp	lain in remarks))	Eggers & Reed (primary):	<u>Upland</u>
Are vegetation	No	Soil	No	Hvdroloav	No	significantly disturbed?	Are "normal	Yes	Eggers & Reed (secondary):
				,			nresent?	95	Eggers & Reed (tertiary):	
Are vegetation	<u>No</u>	Soil	<u>No</u>	Hydrology	<u>No</u> r	naturally problematic?	procont.		Eggers & Reed (quaternary):

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

Hydrophytic vegetation present?	Yes	General Remarks
Hydric soil present?	No	(explain any
Indicators of wetland hydrology present?	No	answers ir needed):
Is the sampled area within a wetland?	<u>No</u>	If yes, optional Wetland Site ID: Upland

VEGETATION

1	Tree Stratum	(Plot Size: <u>3</u>	<u>0 ft</u>)	<u>Absolute</u> <u>% Cover</u> 45	<u>Dominant</u> <u>Species?</u> Yes	Indicator Status	50/20 Thresholds: Tree Stratum Sapling/Shrub Stra	tum		<u>20%</u> 9 2	2	50% 2.5 5
2					103	170	Herb Stratum			0		0
3.				0			Woody Vine Stratu	m		0		0
4.				0			Dominance Test W	<u>/orksheet:</u>				
			Total Cover:	<u>45</u>			Number of Domina	nt Species		2 (۵)	
	<u>Sapling/Shrub Stratum</u>	(Plot Size: <u>1</u>	<u>5 ft</u>)				That Are OBL, FAC	W or FAC:		(/	'	
1.	Rhamnus cathartica			10	Yes	FAC	Total Number of D Species Across Al	ominant I Strata:		2 (B)	
2.				0			Percent of Domina	nt Species			_	
3.				0			That Are OBL, FAC	W or FAC:	100.0	0% (/	4/B)	
4. 5				0			Prevalence Index V	Vorksheet:				
5.			Total Cover:	10			Total % Co	ver of:		Multiply	bv:	
	Herb Stratum	(Plot Size: 5	ff ,	<u></u>			OBL Species	0	X 1		0	
1		(<u> </u>	0			FACW Species	0	X 2		0	
2				0			EAC Species	55	Х 3		165	
3.				0			FACU Species	0	X 4		0	
4.				0			I ACO Species	0	X 5		0	
5.				0			Column Totolog	55	(A)		165	(B)
6.				0			Prev	alence Index =	B/A =		3.00	~ /
7.				0			Hydrophytic Vegeta	tion Indicators:				
ð.			Total Cover:	0			No Rapid T	est for Hydroph	vtic Vegeta	ation		
	Woody Vine Stratum	(Plot Size: 3	0#	<u>0</u>			Yes Dominal	nce Test is >509	%			
1	woody vine Stratum	(i iot oize: <u>o</u>	<u>, , , , , , , , , , , , , , , , , , , </u>				Yes Prevaler	nce Index ≤ 3.0	[1]			
1. 2				0			No Morpho	logical Adaptati	ons [1] (pr	rovide su	pportin	g data
-			Total Cover:	0			No Problem	atic Hvdrophvt	ic Vegetati	on [1] (Ex	olain)	
				_			[1] Indicators of hydric	soil & wetland hy	drology mus	t be preser	• nt, unles	s
% B	are Ground in Herb Stratun	n: <u>100</u>		% Sphagnu	m Moss Cove	r:	disturbed or problema	tic.				
Veg	etation Remarks: (include p	hoto numbers h	nere or on a separate s	sheet)			Hydrophytic vegetat	ion present?	<u>Yes</u>			
							••					

IE Description: (Describe to the depth i	neeaea to aocui	nent the indicator or م	contirm th	ie abscence	of indicators).		
(inches) Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks	s
0 - 5 10YR 3/1		. ,				Loam		
5 - 14 10YR 3/1				·		Sandy Clay Loam		
14 - 18 10YR 3/1	98 10Y	′R 3/4	2	С	М	Sandy Clay Loam		
18 - 22 10YR 4/4	98 10Y	′R 4/6	2	С	М	Sandy Clay		
				·				
ype: C=Concentration, D=Depletion, RI	M=Reduced Mat	rix, MS=Masked San	d Grains	[2] Location	: PL=Pore L	ining, M=Matrix.		
ic Soil Indicators: (applicable to all LRI	Rs, unless other	wise noted)			Inc	licators for Problematic Hydric Soil	ls [3]:	
istosol (A1)		Sandy G	Gleyed Matri	ix (S4)		Coast Prairie Redox (A16)		
istic Epipedon (A2)		📃 Sandy F	Redox (S5)			Dark Surface (S7)		
Black Histic (A3)		Stripped	Matrix (S6))		Iron-Manganese Masses (F12)		
lydrogen Sulfide (A4)		Loamv I	Mucky Mine	eral (F1)		Very Shallow Dark Surface (TF12)		
Stratified Lavers (A5)			Gleved Matr	rix (F2)		Other (explain in soil remarks)		
cm Muck (A10)			d Matrix (F3	3)				
Depleted Below Dark Surface (A11)		Reday [)ark Surface	e (F6)				
Thick Dark Surface (A12)			d Dark Surf	- (F7)				
Condu Musley Mineral (C1)					[3]	Indicators of hydrophytic vegetation	on and wetland hy	/drol
Sandy Mucky Mineral (ST)		Redox L	Jepressions	S (FØ)	m	et he present unless disturbed or	problematic.	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type:		Dep	oth (inches	s):		Hydric soil present?	No	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type:		Dep	oth (inches	s):		Hydric soil present?	No	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type: Remarks: DROLOGY		Dep	oth (inches	s):		Hydric soil present?	<u>No</u>	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type:		Dep	oth (inches	s):		Hydric soil present?	No	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type: Remarks: DROLOGY land Hydrology Indicators: hary Indicators (minimum of one required	d; check all that	Dep	oth (inches	s):		Hydric soil present? Hydric soil present? condary Indicators (minimum of tw	No ro required)	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type:	d; check all that	Dep Dep apply)] Water-Stained Lea	oth (inches	s):		Hydric soil present? Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6)	<u>No</u> ro required)	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type: Remarks: DROLOGY land Hydrology Indicators: nary Indicators (minimum of one required Surface Water (A1) High Water Table (A2)	d; check all that	Dep D	ves (B9)	s):		Hydric soil present? Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10)	<u>No</u>	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type: Remarks: DROLOGY land Hydrology Indicators: nary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3)	d; check all that	Dep D	nth (inches nth (inches ves (B9) 3) 5 (B14)	s):		Hydric soil present? Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2)	No ro required)	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type: Remarks: DROLOGY land Hydrology Indicators: hary Indicators (minimum of one require) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	d; check all that	apply) Water-Stained Lea Aquatic Fauna (B1: True Aquatic Plants Hydrogen Sulfide C	nth (inches nth (inches ves (B9) 3) s (B14) Ddor (C1)	s):	Se	Hydric soil present? Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)	<u>No</u>	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type: Remarks: DROLOGY land Hydrology Indicators: nary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	d; check all that	apply) Water-Stained Lea Aquatic Fauna (B1) True Aquatic Plants Hydrogen Sulfide C Oxidized Rhizosphe	ves (B9) 3) s (B14) Odor (C1) eres on Livii	s):	Se	Hydric soil present? Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery	No ro required)	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type:	d; check all that	apply) Water-Stained Lea Aquatic Fauna (B1) True Aquatic Plants Hydrogen Sulfide C Oxidized Rhizosphe Presence of Reduc	oth (inches oth (inches ves (B9) 3) s (B14) odor (C1) eres on Livin ed Iron (C4	s):	Se	Hydric soil present? Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1)	No ro required) (C9)	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type: Remarks: DROLOGY land Hydrology Indicators: nary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	d; check all that	apply) Water-Stained Lea Aquatic Fauna (B1: True Aquatic Plants Hydrogen Sulfide C Oxidized Rhizosphe Presence of Reduc	ves (B9) 3) s (B14) Ddor (C1) eres on Livii ed Iron (C4) tion in Tilleo	s): ng Roots (C3,	Sec	Hydric soil present? Hydric soil present? Condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2)	No To required) (C9)	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type: Remarks: DROLOGY land Hydrology Indicators: nary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iran Doposite (B5)	d; check all that	apply) Water-Stained Lea Aquatic Fauna (B1) True Aquatic Plants Hydrogen Sulfide C Oxidized Rhizosphe Presence of Reduc Recent Iron Reduci	ves (B9) 3) s (B14) odor (C1) eres on Livin ed Iron (C4) tion in Tilleo	s): ing Roots (C3, i) d Soils (C6)	Se	Hydric soil present? Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) EAC Neutral Text (D5)	No ro required) (C9)	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type: Remarks: DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	d; check all that	apply) Water-Stained Lea Aquatic Fauna (B13) True Aquatic Plants Hydrogen Sulfide C Oxidized Rhizosphe Presence of Reduc Recent Iron Reduce Thin Muck Surface	oth (inches oth (inches ves (B9) 3) 5 (B14) Odor (C1) eres on Livin ed Iron (C4) tion in Tilleo (C7)	s): ing Roots (C3, ') d Soils (C6)	Se	Hydric soil present? Hydric soil present? Condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)	No ro required) (C9)	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type: Remarks: DROLOGY land Hydrology Indicators: nary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	d; check all that	apply) Water-Stained Lea Aquatic Fauna (B1: True Aquatic Plants Hydrogen Sulfide C Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct Thin Muck Surface Gauge or Well Data	ves (B9) 3) 5 (B14) Odor (C1) 9res on Livin ed Iron (C4) tion in Tilleo (C7) a (D9)	s): ng Roots (C3, ') 1 Soils (C6)	Sea	Hydric soil present? Hydric soil present? Condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)	No To required) (C9)	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type: Remarks: DROLOGY land Hydrology Indicators: nary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	d; check all that	<i>apply)</i> Water-Stained Lea Aquatic Fauna (B1: True Aquatic Plants Hydrogen Sulfide C Oxidized Rhizosphe Presence of Reduc Chin Muck Surface Gauge or Well Data Other (explain in re	oth (inches oth (inches ves (B9) 3) s (B14) Odor (C1) eres on Livin ed Iron (C4) tion in Tilleo (C7) a (D9) marks)	s): ng Roots (C3, ') d Soils (C6)	Se	Hydric soil present? Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)	No ro required) (C9)	
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type:	d; check all that	apply) Water-Stained Lea Aquatic Fauna (B1: True Aquatic Plants Hydrogen Sulfide C Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct Thin Muck Surface Gauge or Well Data Other (explain in re	ves (B9) 3) 5 (B14) Odor (C1) eres on Livin ed Iron (C4) tion in Tilleo (C7) a (D9) marks)	s): ng Roots (C3, ') 1 Soils (C6)	Sea	Hydric soil present? Hydric soil present? Condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) Indicators of wetland hydrolog	<u>No</u> to required) (C9) y present?	<u>No</u>
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type: Remarks: DROLOGY land Hydrology Indicators: nary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) d Observations: face water present?	d; check all that	apply) Water-Stained Lea Aquatic Fauna (B1) True Aquatic Plants Hydrogen Sulfide C Oxidized Rhizosphe Presence of Reduct Recent Iron Reduct Recent Iron Reduct Gauge or Well Data Other (explain in re urface Water Depth	oth (inches ves (B9) 3) s (B14) odor (C1) eres on Livin ed Iron (C4) tion in Tilleo (C7) a (D9) marks) (inches):	s): ing Roots (C3, i) d Soils (C6)	Se	Hydric soil present? Hydric soil present? Condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) Indicators of wetland hydrolog Describe Recorded Data:	<u>No</u> ro required) (C9) y present?	<u>No</u>
5 cm Mucky Peat or Peat (S3) trictive Layer (if present): Type: Remarks: DROLOGY Iand Hydrology Indicators: nary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) d Observations: 'ace water present? er table present?	d; check all that	Dep apply) Water-Stained Lea Aquatic Fauna (B1: True Aquatic Plants Hydrogen Sulfide C Oxidized Rhizosphe Presence of Reduc Oxidized Rhizosphe Presence of Reduc Recent Iron Reduci Recent Iron Reduci Gauge or Well Data Other (explain in re urface Water Depth (in	oth (inches ves (B9) 3) s (B14) Odor (C1) eres on Livin ed Iron (C4) tion in Tilleo (C7) a (D9) marks) (inches): ches):	s):		Hydric soil present? Hydric soil present? Condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) Indicators of wetland hydrolog, Describe Recorded Data:	<u>No</u> <u>ro required)</u> (C9) y present?	<u>No</u>

Project/Site:	<u>Basset C</u>	reek R	<u>estoration</u>		Applicant/O	wner: <u>BCWMC</u>	City/County:	<u>Minneapo</u> pin	olis/Henne State:	<u>MN</u>	Sampling Date: <u>11/25/15</u>
Investigator(s):	<u>BKB</u>				Section:	<u>20</u>	Township:	<u>29</u>	Range	<u>24</u>	Sampling Point: 2-1 WET
Land Form:	<u>Footslop</u>	<u>be</u>			Local Relie	f: <u>Concave</u>	Slope %:	<u>1</u> 8	Soil Map Unit Name	e: <u>Urban</u>	Land-Lester complex 2-18% slopes
Subregion (LRR)	: <u>M</u>				Latitude:	<u>4980799</u>	Longitude:	<u>475177</u>	Datum:	UTM Na	id 83 Zone 15N
Cowardin Classii	fication:	<u>PEM/</u>	<u>/SS1C</u>		Circular 39	Classification: <u>Type 3/6</u>			Mapped NWI Cla	assification	None mapped*
Are climatic/hydro	ologic cond	litions o	n the site t	ypical for this	time of year	r? <u>Yes</u> (If no, expla	ain in remarks)	Eggers & Reed	(primary):	Shallow Marsh
Are vegetation	No	Soil	No	Hydrology	No	significantly disturbed?	Are "normal	Yes.	Eggers & Reed	(secondary	/): <u>Shrub-Carr</u>
, rogotation				, a. o.o.g,		orginitioanity alocarboar	circumstance	es"	Eggers & Reed	(tertiary):	
Are vegetation	<u>No</u>	Soil	<u>No</u>	Hydrology	<u>No</u> n	naturally problematic?	hieselli!		Eggers & Reed	(quaternar	y):

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

Hydrophytic vegetation present?	Yes	General Remarks * Part of mapped PFO1A
Hydric soil present?	Yes	(explain any
Indicators of wetland hydrology present?	Yes	answers ir needed):
Is the sampled area within a wetland?	<u>Yes</u>	If yes, optional Wetland Site ID: Wetland 2

VEGETATION

	<u>Tree Stratum</u>	(Plot Size:	<u>30 ft</u>)	<u>Absolute</u> <u>% Cover</u>	<u>Dominant</u> <u>Species?</u>	<u>Indicator</u> <u>Status</u>	50/20 Thresholds: Tree Stratum Sapling/Shrub Stratum		<u>20</u> 6 4	<u>%</u>	50% 15 11
1.	Quercus macrocarpa			30	Yes	FAC	Herb Stratum		()	0
2. 3.				0			Woody Vine Stratum		()	0
4.				0			Dominance Test Worksheet:				
			Total Cover:	<u>30</u>			Number of Dominant Specie That Are OBL. FACW or FAC	s ;	2	(A)	
	<u>Sapling/Shrub Stratum</u>	(Plot Size:	<u>15 ft</u>)			[]	Total Number of Dominant	_			
1.	Rhamnus cathartica			20	Yes	FAC	Species Across All Strata:		2	(B)	
2.	Salix spp.			2	No		Percent of Dominant Species	5	100 00%	(//R)	
3. 1				0			That Are OBL, FACW or FAC		100.00 %	(,,,,,)	
				0			Prevalence Index Worksheet				
0.			Total Cover:	22			Total % Cover of:		Mult	iply by:	
	Herb Stratum	(Plot Size:	<u>5 ft</u>				OBL Species	0 >	X 1	0	
1.		·	,	0			FACW Species	0 >	X 2	0	
2.				0			FAC Species	50 >	× 3	150	
3.				0			FACII Species	0 >	× 4	0	
4.				0			IIPL Species	0 >	× 5	0	
5.				0			Column Totoloi	50 ((A)	150	(B)
6.				0			Column Totals: Prevalence Inc		Δ =	3.00	(-)
7.				0			Hydrophytic Vegetation Indic	atore		5.00	
8.			Tatal Causer	0			No. Panid Toot for Hy	dronbuti	a Vagatation		
				<u>0</u>			Yes Dominance Test is	3 >50%	c vegetation		
	Woody Vine Stratum	(Plot Size:	<u>30 m</u>)				Yes Prevalence Index	≤ 3.0 [1]			
1.				0			No Morphological Ad	aptation	s [1] (provide	e supportin	g data
2.			Total Cover	0			in vegetation remains	arks or o	on a separate	sheet) L (Evenia in)	
				<u>v</u>			[1] Indicators of hydric acil 8 wet		vegetation [1]	(⊏xµiairi)	
% B	are Ground in Herb Stratun	n: <u>100</u>	_	m Moss Cove	r:	disturbed or problematic.	ina nyaro	nogy must be p	esent, unles	13	
Veg	etation Remarks: (include p	ohoto numbers	here or on a separate	sheet)			Hydrophytic vegetation presen	t?	<u>Yes</u>		
No ł	erbaceous layer in the vicinit	ty of the sample	point likely due to contin	uous saturati	on from seepa	ge but areas fur	ther west are dominated by reed ca	nary gra	ss and narrow	-leaf cattail.	

Operation is the depth needed to document the indicator or confirm the at the indicator or confirm the at the indicator or confirm the indicator or conf	scence of indicators).
Opplin Matrix Redox realities (inches) Color (moist) % Color (moist) % 0 - 10 2.5Y 2.5/1	<u> </u>
0 - 10 2.5Y 2.5/1 10 - 15 2.5Y 2.5/1 15 - 21 10Y 4/1 (Gley)	pe [1] Loc [2] Texture Remarks
10 - 15 2.5Y 2.5/1 15 - 21 10Y 4/1 (Gley)	
15 - 21 10Y 4/1 (Gley)	
-	Clay
· · · · · · · · · · · · · · · · · · ·	
] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]	Location: PL=Pore Lining, M=Matrix.
rdric Soil Indicators: (applicable to all LRRs, unless otherwise noted)	Indicators for Problematic Hydric Soils [3]:
Histosol (A1) Sandy Gleyed Matrix (S	4) Coast Prairie Redox (A16)
Histic Epipedon (A2)	Dark Surface (S7)
Black Histic (A3)	Iron-Manganese Masses (F12)
] Hydrogen Sulfide (A4)	1) Very Shallow Dark Surface (TF12)
Stratified Layers (A5) Loamy Gleved Matrix (F	2) Other (explain in soil remarks)
2 cm Muck (A10) Depleted Matrix (F3)	
Depleted Below Dark Surface (A11)	
Thick Dark Surface (A12)	F7)
Sandy Mucky Mineral (S1)	[3] Indicators of hydrophytic vegetation and wetland hydro
5 cm Mucky Peat or Peat (\$3)	must be present, unless disturbed or problematic.
oil Remarks:	
YDROLOGY	
Vetland Hydrology Indicators:	
rimary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
Timary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10)
rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2)
Timary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14) Water Marks (B1) Hydrogen Sulfide Odor (C1)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Trimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living R	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Sots (C3)
Trimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living R Drift Deposits (B3) Presence of Reduced Iron (C4)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
rimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Reind Deposits (B3) Drift Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soil	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Sots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) s (C6)
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living R Drift Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soil Iron Deposits (B5) Thin Muck Surface (C7)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Sots (C3) Stunted or Stressed Plants (D1) s (C6) FAC-Neutral Test (D5)
Trimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living R Drift Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soil Iron Deposits (B5) Thin Muck Surface (C7) Jundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Sotts (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) s (C6) FAC-Neutral Test (D5)
Timmary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living R Drift Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soil Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (explain in remarks)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Sots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) s (C6) FAC-Neutral Test (D5)
Trimary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living R Drift Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soil Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (explain in remarks)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) cots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) s (C6) Indicators of wetland hydrology present?
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living R Drift Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soil Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (explain in remarks) Water Concave Surface (B8) Surface Water Depth (inches):	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) sots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) s (C6) FAC-Neutral Test (D5) Indicators of wetland hydrology present? Yes Describe Recorded Data:
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living R Drift Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soil Iron Deposits (B5) Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (explain in remarks) Water table present? Water Table Depth (inches):	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Doots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) s (C6) Indicators of wetland hydrology present? Yes Describe Recorded Data:

Project/Site:	Basset C	reek R	<u>estoration</u>		Applicant/Ov	wner: <u>BCWMC</u>		City/County:	<u>Minneap</u> <u>pin</u>	olis/Henne	State:	<u>MN</u>	Sampling Date:	<u>11/25/15</u>
Investigator(s):	<u>BKB</u>				Section:	<u>21</u>		Township:	<u>29</u>		Range:	<u>24</u>	Sampling Point:	<u>3-1 UPL</u>
Land Form:	<u>Footslop</u>	<u>be</u>			Local Relief	<u>Concave</u>		Slope %:	<u>2</u>	Soil Map U	nit Name	<u>Urban</u>	land-Udorthents	wet sub 0-2% slope
Subregion (LRR)	: <u>M</u>				Latitude:	<u>4980541</u>		Longitude:	<u>476718</u>		Datum:	<u>UTM Na</u>	<u>d 83 Zone 15N</u>	
Cowardin Classif	ication:	<u>Uplar</u>	<u>nd</u>		Circular 39 (Classification: <u>U</u>	<u>Jpland</u>			Mapped	NWI Cla	ssification	<u>PEM1Ax</u>	
Are climatic/hydro	ologic cond	litions o	n the site t	ypical for this	time of year?	? <u>Yes</u> (If n	no, expla	ain in remarks	;)	Eggers	& Reed (orimary):	Upland	
Are vegetation	No	Soil	No	Hydrology	No	ianificantly disturbe	ad?	Are "normal	Yes	Eggers	& Reed (secondary	<i>ı):</i>	
The Vegetation	110	001	110	riyarology	<u>110</u> 0	igninountly distance	<i>.</i>	circumstanc	es"	Eggers	& Reed (i	tertiary):		
Are vegetation	<u>No</u>	Soil	<u>No</u>	Hydrology	<u>No</u> na	aturally problematic	?	present?		Eggers	& Reed (quaternar	y):	

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

Hydrophytic vegetation present?	Yes	General Remarks
Hydric soil present?	No	(explain any
Indicators of wetland hydrology present?	No	answers ir needed):
Is the sampled area within a wetland?	<u>No</u>	If yes, optional Wetland Site ID: Upland

VEGETATION

	<u>Tree Stratum</u>	(Plot Size:	<u>30 ft</u>)	<u>Absolute</u> <u>% Cover</u>	<u>Dominant</u> <u>Species?</u>	<u>Indicator</u> <u>Status</u>	50/20 Thresholds: Tree Stratum Sanling/Shub Stratum	<u>20%</u> 0	<u>50%</u> 0		
1.					0			Herb Stratum	19.4	48.5		
2.					0			Woody Vine Stratum	0	0		
3. 4					0			Dominance Test Worksheet:				
4.			Total Co	ver:	0			Number of Dominant Species				
	Sanling/Shrub Stratum	(Plot Size:	15 #	1	<u>v</u>			That Are OBL, FACW or FAC:	1 (A)			
1	<u>Saping/Sirub Stratum</u>	(FIOL 5126.	<u>15 II</u>	,	0			Total Number of Dominant	1 (P)			
1. 2					0			Species Across All Strata:	(<i>D</i>)			
3.					0			Percent of Dominant Species)0.00% (<mark>A/B</mark>)			
4.					0							
5.					0			Prevalence Index Worksheet:				
			Total Co	ver:	<u>0</u>			Total % Cover of:	Multiply by:			
	<u>Herb Stratum</u>	(Plot Size:	<u>5 ft</u>)				OBL Species 0 X 1		0		
1.	Poa pratensis				80	Yes	FAC	FACW Species 1 X 2		2		
2.	Solidago canadensis				15	No	FACU	FAC Species 80 X 3	2	40		
3.	Mentha arvensis				1	No	FACW	FACU Species 15 X 4	(60		
4.	Artemisia absinthium				1	No	UPL	UPL Species 1 X 5		5		
5.					0			Column Totals: 97 (A)	3	07 (B)		
6.					0			Prevalence Index = B/A =	3.	16		
1. 0					0			Hydrophytic Vegetation Indicators:				
0.			Total Co	ver:	0			No Rapid Test for Hydrophytic Ve	egetation			
	Woody Vino Stratum	(Plot Size:	30 #	· ··· ·	<u>97</u>			Yes Dominance Test is >50%				
	Woody Ville Stratum	(1 101 0120.	<u>50 n</u>		0			No Prevalence Index ≤ 3.0 [1]				
1. 2					0			No Morphological Adaptations [1] (provide suppo	rting data		
۷.			Total Co	ver:	0			In Vegetation remarks or on a	separate sneet)	in)		
					⊻			[11] Indicators of hydric soil & wetland hydrology	umust be present u	nloss		
% B	are Ground in Herb Stratun	n:			% Sphagnui	n Moss Cove	r:	disturbed or problematic.	must be present, u			
Veg	etation Remarks: (include p	hoto number	s here or on a se	oarate s	sheet)			Hydrophytic vegetation present? Yes				
								11				

L								
ile Description: (Describe to the depth need	led to docu	ment the indicator or	confirm ti	he abscence o	of indicators)			
Depth Matrix	<u> </u>	Rec	lox Featu	res			_	
(inches) Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Rem	arks
$\frac{0-4}{10 \text{ VR } 2/1} = \frac{10 \text{ VR } 2/1}{10 \text{ VR } 2/1} = \frac{10 \text{ VR } 2/1}{10 \text{ VR } 2/1}$						Sandy Clay Loam		
<u>6 - 11</u> <u>10YR 3/1</u>				·		Loamy Sand		
11 - 14 10YR 3/4				·		Sand		
Type: C=Concentration, D=Depletion, RM=R	educed Mat	rix, MS=Masked Sand	Grains	[2] Location	: PL=Pore L	ining, M=Matrix.		
dric Soil Indicators: (applicable to all LRRs, u	unless othe	rwise noted)			Indi	icators for Problematic Hydric So	oils [3]:	
Histosol (A1)		📃 Sandy G	eyed Mat	rix (S4)		Coast Prairie Redox (A16)		
Histic Epipedon (A2)		Sandy Re	edox (S5)			Dark Surface (S7)		
Black Histic (A3)		Stripped	Matrix (S6	;)		Iron-Manganese Masses (F12)		
Hydrogen Sulfide (A4)		Loamy M	ucky Mine	eral (F1)		Very Shallow Dark Surface (TF12)		
Stratified Layers (A5)		Loamy G	- leved Mat	rix (F2)		Other (explain in soil remarks)		
2 cm Muck (A10)		Depleted	, Matrix (F.	3)				
Depleted Below Dark Surface (A11)		Redox Da	ark Surfac	, e (F6)				
Thick Dark Surface (A12)			Dark Sur	face (F7)				
Sandy Mucky Mineral (S1)		Redox D	enression	s (F8)	[3] [Indicators of hydrophytic vegeta	tion and wetland	l hydrolo
5 cm Mucky Post or Post (\$3)				- (/	mus	st be present, unless disturbed o	or problematic.	
strictive Layer (if present): Type:		Dept	th (inche	s):		Hydric soil present?	No	
strictive Layer (if present): Type:		Dept	th (inche	s):		Hydric soil present?	No	
strictive Layer (if present): Type:		Dept	th (inche	s):		Hydric soil present?	No	
strictive Layer (if present): Type: il Remarks: DROLOGY etland Hydrology Indicators:		Dept	th (inche	s):		Hydric soil present?	No	
strictive Layer (if present): Type: il Remarks: DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required; cl	heck all tha	Depi	th (inche	s):		Hydric soil present?	<u>No</u>	
strictive Layer (if present): Type: il Remarks: /DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required; cl Surface Water (A1)	heck all tha	t apply)	th (inche	s):		Hydric soil present? condary Indicators (minimum of the Surface Soil Cracks (B6)	<u>No</u>	
strictive Layer (if present): Type: il Remarks: DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required; cl Surface Water (A1) High Water Table (A2)	heck all tha	t apply) Water-Stained Leav	rh (inche es (B9)	s):	<u>Sec</u>	Hydric soil present? condary Indicators (minimum of the Surface Soil Cracks (B6) Drainage Patterns (B10)	<u>No</u>	
strictive Layer (if present): Type: il Remarks: 'DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required; cl Surface Water (A1) High Water Table (A2) Saturation (A3)	heck all tha	Deput t apply) Water-Stained Leav Aquatic Fauna (B13) True Aquatic Plants	es (B9) (B14)	s):		Hydric soil present? condary Indicators (minimum of the source of the so	<u>No</u>	
strictive Layer (if present): Type:	heck all tha	Deputy t apply) Water-Stained Leav Aquatic Fauna (B13) True Aquatic Plants Hydrogen Sulfide Out	h (inche b) (B14) (or (C1)	s):	Sec	Hydric soil present? condary Indicators (minimum of the solution of the soluti	<u>No</u>	
strictive Layer (if present): Type: il Remarks: 'DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one required; cl Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	heck all tha	Depu t apply) Water-Stained Leav Aquatic Fauna (B13) True Aquatic Plants Hydrogen Sulfide Ou Oxidized Rhizosphe	es (B9) (B14) for (C1) res on Liv	s):	Sec	Hydric soil present? condary Indicators (minimum of the source of the so	No two required)	
strictive Layer (if present): Type:	heck all tha	Depu t apply) Water-Stained Leav Aquatic Fauna (B13) True Aquatic Plants Hydrogen Sulfide Od Oxidized Rhizosphel Presence of Reduce	th (inche es (B9)) (B14) for (C1) res on Livi d Iron (C4	s):	Sec	Hydric soil present? condary Indicators (minimum of the second s	<u>No</u> two required)	
strictive Layer (if present): Type:	heck all tha	Depu Depu t apply) Water-Stained Leav Aquatic Fauna (B13) True Aquatic Plants Hydrogen Sulfide Od Oxidized Rhizosphei Presence of Reduce Recent Iron Reducti	es (B9) (B14) dor (C1) res on Livi d Iron (C4	s):	Sec	Hydric soil present? condary Indicators (minimum of the second s	No two required)	
strictive Layer (if present): Type:	heck all tha	Depu Depu t apply) Water-Stained Leav Aquatic Fauna (B13) True Aquatic Plants Hydrogen Sulfide Ou Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Thin Muck Surface (es (B9) (B14) dor (C1) res on Liva d Iron (C4 on in Tilleo C7)	s): ing Roots (C3) 1) d Soils (C6)	Sec [] 	Hydric soil present? Fondary Indicators (minimum of the second s	No two required)	
strictive Layer (if present): Type:	heck all tha	Depu t apply) Water-Stained Leav Aquatic Fauna (B13) True Aquatic Plants Hydrogen Sulfide Od Oxidized Rhizosphei Presence of Reduce Recent Iron Reducti Thin Muck Surface (Gauge or Well Data	es (B9) (B14) dor (C1) res on Livi d Iron (C4 on in Tilleo (C7) (D9)	s): ing Roots (C3) 1) d Soils (C6)	Sec [] 	Hydric soil present? Econdary Indicators (minimum of a Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagen Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)	No two required)	
strictive Layer (if present): Type:	heck all tha	Depu Depu Depu Depu Depu Depu Depu Depu	es (B9) (B14) for (C1) res on Livit d Iron (C4) on in Tilleo (C7) (D9)	s): ing Roots (C3) i) d Soils (C6)	Sec [] 	Hydric soil present? Exandary Indicators (minimum of the second	No two required)	
strictive Layer (if present): Type:	heck all tha	Depu t apply) Water-Stained Leav Aquatic Fauna (B13) True Aquatic Plants Hydrogen Sulfide Ou Oxidized Rhizosphen Presence of Reduce Recent Iron Reducti Thin Muck Surface (Gauge or Well Data Other (explain in ren	th (inche es (B9)) (B14) dor (C1) res on Liva d Iron (C4 on in Tilleo (C7) (D9) narks)	s): ing Roots (C3) 1) d Soils (C6)	Sec [] 	Hydric soil present? Example 2 in the solution of the solutio	No two required)	_
strictive Layer (if present): Type:		Depu Depu Depu Depu Depu Depu Depu Depu	th (inche es (B9)) (B14) for (C1) res on Livit d Iron (C4 on in Tilleo (C7) (D9) narks)	s): ing Roots (C3) i) d Soils (C6)	Sec 	Hydric soil present? Example 2 indicators (minimum of a Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagen Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) Indicators of wetland hydrolog	No two required) ry (C9)	<u></u>
strictive Layer (if present): Type:		Depu Depu Depu Depu Depu Depu Depu Depu	th (inche es (B9)) (B14) dor (C1) res on Livi d Iron (C4 on in Tilleo C7) (D9) narks) nches): hes):	s): ing Roots (C3) l) d Soils (C6)	Sec 	Hydric soil present? Example 2 indicators (minimum of a Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagen Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) Indicators of wetland hydrolog Describe Recorded Data:	No two required) ry (C9)	<u>No</u>
strictive Layer (if present): Type:		Dept t apply) Water-Stained Leav Aquatic Fauna (B13) True Aquatic Plants Hydrogen Sulfide Od Oxidized Rhizospher Presence of Reduce Recent Iron Reducti Thin Muck Surface (Gauge or Well Data Other (explain in rem Surface Water Depth (inclusted Contraction Depth (inclusted	th (inche es (B9)) (B14) dor (C1) res on Livi d Iron (C4 on in Tilleo (C7) (D9) narks) nches): hes):	s):	Sec [] 	Hydric soil present? Example 2 indicators (minimum of the secondary Indicators (minimum of the secondary Indicators (minimum of the secondary Indicators (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagen Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) Indicators of wetland hydrology Describe Recorded Data:	No two required) ry (C9)	<u>No</u>

Project/Site:	Basset C	reek R	<u>estoration</u>		Applicant/Ow	vner: <u>BCWMC</u>	City/County:	<u>Minneapol</u> pin	is/Henne State	<u>MN</u>	Sampling Date:	<u>11/25/15</u>
Investigator(s):	<u>BKB</u>				Section:	<u>21</u>	Township: 29	9	Rang	<u>e: 24</u>	Sampling Point:	<u>3-1 WET</u>
Land Form:	Toeslop	<u>e</u>			Local Relief:	<u>Concave</u>	Slope %: <u>1</u>	So	oil Map Unit Na	ne: <u>Urbar</u>	n land-Udorthents	wet sub 0-2% slope
Subregion (LRR)	: <u>M</u>				Latitude:	<u>4980539</u>	Longitude: 47	<u>76721</u>	Datu	m: <u>UTM Na</u>	ad 83 Zone 15N	
Cowardin Classif	ication:	PEM/	\/Fx		Circular 39 C	Classification: <u>Type 1/</u>	3		Mapped NWI	Classification	n: <u>PEM1Ax</u>	
Are climatic/hydro	ologic cond	litions o	n the site t	ypical for this	time of year?	Yes (If no, exp	olain in remarks)		Eggers & Ree	d (primary):	Seasonally	Flooded Basin
Are vegetation	No	Soil	No	Hydrology	No s	ignificantly disturbed?	Are "normal	<u>Yes</u>	Eggers & Ree	d (secondar	y): <u>Shallow Ma</u>	<u>rsh</u>
ne regolation	110	001	110	rijarologj	<u></u> 0.	igninounity uloturbou.	circumstances	5″	Eggers & Ree	d (tertiary):		
Are vegetation	No	Soil	No	Hydrology	<u>No</u> na	aturally problematic?	present?		Eggers & Ree	d (quaternai	ry):	

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

Hydrophytic vegetation present?	Yes	General Remarks					
Hydric soil present?	Yes	(explain any					
Indicators of wetland hydrology present?	Yes	answers ir needed):					
Is the sampled area within a wetland?	Yes	If yes, optional Wetland	Site ID:	Wetland 3			

VEGETATION

1 0 Herb Stratum		10.0			
		16.6	41.5		
2. U Woody Vine Stratum		0	0		
3. O Dominance Test Worksheet:					
4. Dominance rest worksneet.					
Dealing/Ohmh Official Cover: 0 That Are OBL, FACW or FAC:		2 (A)			
<u>Sapling/Snrub Stratum</u> (Plot Size: <u>15 ft</u>) Total Number of Dominant					
1. 0 Species Across All Strata:		2 (B)			
2. Percent of Dominant Species	100.0)0% (A/B			
4 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
5. 0 Prevalence Index Worksheet:					
Total Cover: 0 Total % Cover of:		Multiply by:			
Herb Stratum (Plot Size: 5 ft) OBL Species	0 X 1		0		
1. Solidago gigantea 60 Yes FACW FACW Species 6	0 X 2	1	60		
2. Phalaris arundinacea 20 Yes FACW FAC Species	1 X 3		3		
3. Arctium minus 2 No FACU FACU Species	2 X 4		8		
4. Rumex crispus 1 No FAC UPL Species	0 X 5		0		
50Column Totals:	3 (A)	1	71 (B)		
6. O Prevalence Inde	x = B/A =	2.	06		
7. 0 Hvdrophytic Vegetation Indicat	ors:				
0. Total Cover: 00 No Rapid Test for Hydr	 ophytic Veget	tation			
Weedy Vine Stratum (Plot Size: 20 ft) Yes Dominance Test is :	·50%				
<u>Woody Vine Stratum</u> (Fiot Gize: <u>30 n</u>) Yes Prevalence Index ≤	3.0 [1]				
1. No Morphological Adap	tations [1] (p	provide suppo	rting data		
2 in vegetation remark	s or on a sep	parate sheet)			
$\frac{1}{10 \text{ tar Cover:}} \qquad \underline{0} \qquad \frac{1}{10 \text{ tar Cover:}} \qquad \underline{0}$	nytic vegetat	ion [1] (Expla	in)		
% Bare Ground in Herb Stratum: % Sphagnum Moss Cover: [1] Indicators of hydric soil & wetland disturbed or problematic.	l hydrology mu	st be present, u	nless		
Vegetation Remarks: (include photo numbers here or on a separate sheet) Hydrophytic vegetation present?	Hydrophytic vegetation present? Yes				

01L						Sampling P	oint:
file Description: (Describe to the depth n	eeded to	document the indicator or	confirm th	e abscence	of indicators).	
Depth Matrix		Re	edox Featu	res			
(inches) Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0 - 2 10YR 2/1						Sandy Clay Loam	
<u>2 - 8</u> <u>10YR 3/2</u> <u>2 - 8</u> <u>15</u> <u>2 - 5/2 - 5/4</u>	98	10YR 3/4	2	<u> </u>	M	Loamy Sand	
- 2.51 2.5/1	90	101 K 3/4	Z	U	IVI		
-							
] Type: C=Concentration, D=Depletion, RM	I=Reduce	d Matrix, MS=Masked San	d Grains	[2] Location	n: PL=Pore L	ining, M=Matrix.	
ydric Soil Indicators: (applicable to all LRR	ts, unless	otherwise noted)			Ind	licators for Problematic Hydric So	ils [3]:
] Histosol (A1)		Sandy C	Gleyed Matri	ix (S4)		Coast Prairie Redox (A16)	
] Histic Epipedon (A2)		🖌 Sandy F	Redox (S5)			Dark Surface (S7)	
] Black Histic (A3)		Stripped	Matrix (S6))		Iron-Manganese Masses (F12)	
] Hydrogen Sulfide (A4)		🗌 Loamy I	Mucky Mine	ral (F1)		Very Shallow Dark Surface (TF12)	
Stratified Layers (A5)		Loamy (Gleyed Matr	rix (F2)		Other (explain in soil remarks)	
] 2 cm Muck (A10)		Deplete	d Matrix (F3	3)			
Depleted Below Dark Surface (A11)		✓ Redox L	Dark Surface	e (F6)			
] Thick Dark Surface (A12)		Deplete	d Dark Surfa	ace (F7)			
] Sandy Mucky Mineral (S1)		🗌 Redox L	Depressions	: (F8)	[3] mu	Indicators of hydrophytic vegetat st be present, unless disturbed o	ion and wetland hydrolc r problematic.
5 cm Mucky Peat or Peat (S3)							P
estrictive Layer (if present): Type:		Dep	oth (inches	s):		Hydric soil present?	Yes
estrictive Layer (if present): Type:		Dep	oth (inches	»):		Hydric soil present?	Yes
estrictive Layer (if present): Type: pil Remarks: /DROLOGY		Dep	oth (inches	s):		Hydric soil present?	Yes
estrictive Layer (if present): Type: pil Remarks: /DROLOGY fetland Hydrology Indicators:		Dep	oth (inches	s):		Hydric soil present?	Yes
estrictive Layer (if present): Type: pil Remarks: /DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required	l; check a	Dep	oth (inches	s):	Se	Hydric soil present?	Yes vo required)
estrictive Layer (if present): Type: pil Remarks: /DROLOGY fetland Hydrology Indicators: rimary Indicators (minimum of one required Surface Water (A1)	l; check a	DepDep	oth (inches	s):		Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6)	Yes vo required)
estrictive Layer (if present): Type: pil Remarks: /DROLOGY letland Hydrology Indicators: rimary Indicators (minimum of one required] Surface Water (A1)] High Water Table (A2)	l; check a		ves (B9)	s):		Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10)	Yes vo required)
estrictive Layer (if present): Type: pil Remarks: /DROLOGY fetland Hydrology Indicators: rimary Indicators (minimum of one required] Surface Water (A1)] High Water Table (A2) Saturation (A2)	l; check a		ves (B9)	s):	Sea	Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry Season Water Table (C2)	Yes vo required)
estrictive Layer (if present): Type: pil Remarks: //DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required] Surface Water (A1)] High Water Table (A2)] Saturation (A3) Water Marks (B1)	l; check a		ves (B9) 3) s (B14)	s):	See	Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Craufish Burrows (C8)	Yes vo required)
estrictive Layer (if present): Type: pil Remarks: /DROLOGY fetland Hydrology Indicators: rimary Indicators (minimum of one required] Surface Water (A1)] High Water Table (A2)] Saturation (A3)] Water Marks (B1)] Sodiment Desceite (B2)	l; check a		ves (B9) 3) 5 (B14) 2007 (C1)	s):	Sea	Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Soturation Visible on Assiel Imagen	Yes vo required)
estrictive Layer (if present): Type: pil Remarks: //DROLOGY fetland Hydrology Indicators: rimary Indicators (minimum of one required] Surface Water (A1)] High Water Table (A2)] Saturation (A3)] Water Marks (B1)] Sediment Deposits (B2)] Diff Deposits (B2)	l; check a	Dep Il that apply) Water-Stained Lea Aquatic Fauna (B1: True Aquatic Plants Hydrogen Sulfide C Oxidized Rhizospho	oth (inches oth (inches ves (B9) 3) s (B14) Odor (C1) eres on Livir	ng Roots (C3,	Sea	Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery	Yes wo required)
estrictive Layer (if present): Type: pil Remarks: /DROLOGY fetland Hydrology Indicators: rimary Indicators (minimum of one required] Surface Water (A1)] High Water Table (A2)] Saturation (A3)] Water Marks (B1)] Sediment Deposits (B2)] Drift Deposits (B3)] Machine Const (D1)	l; check a		oth (inches oth (inches ves (B9) 3) 5 (B14) Odor (C1) eres on Livir ed Iron (C4)	ng Roots (C3,	Sec [] 	Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1)	Yes wo required)
estrictive Layer (if present): Type: pil Remarks: //DROLOGY fetland Hydrology Indicators: rimary Indicators (minimum of one required] Surface Water (A1)] High Water Table (A2)] Saturation (A3)] Water Marks (B1)] Sediment Deposits (B2)] Drift Deposits (B3)] Algal Mat or Crust (B4)	l; check a	Dep It that apply) Water-Stained Lea Aquatic Fauna (B1) True Aquatic Plants Hydrogen Sulfide C Oxidized Rhizospho Presence of Reduc Recent Iron Reduc	ves (B9) 3) s (B14) odor (C1) eres on Livir ed Iron (C4) tion in Tilled	s): ng Roots (C3,) I Soils (C6)	Sea 	Hydric soil present? condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2)	<u>Yes</u> vo required) r (C9)
estrictive Layer (if present): Type: pil Remarks: //DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one required] Surface Water (A1)] High Water Table (A2)] Saturation (A3)] Water Marks (B1)] Sediment Deposits (B2)] Drift Deposits (B3)] Algal Mat or Crust (B4)] Iron Deposits (B5)	l; check a		ves (B9) 3) s (B14) Odor (C1) eres on Livir ed Iron (C4) tion in Tilled (C7)	s): ng Roots (C3,) I Soils (C6)		Hydric soil present? Condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)	Yes vo required) ((C9)
estrictive Layer (if present): Type: pil Remarks: //DROLOGY fetland Hydrology Indicators: rimary Indicators (minimum of one required] Surface Water (A1)] High Water Table (A2)] Saturation (A3)] Water Marks (B1)] Sediment Deposits (B2)] Drift Deposits (B3)] Algal Mat or Crust (B4)] Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	l; check a	Dep Dep Il that apply) Uater-Stained Lea Aquatic Fauna (B1) True Aquatic Plants Hydrogen Sulfide C Oxidized Rhizospho Presence of Reduc Recent Iron Reduc Thin Muck Surface Gauge or Well Data	oth (inches oth (inches ves (B9) 3) 5 (B14) Odor (C1) 9res on Livir ed Iron (C4) tion in Tilled (C7) a (D9)	s): ng Roots (C3,) I Soils (C6)	Sea 	Hydric soil present? Condary Indicators (minimum of tw Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)	<u>Yes</u> vo required) ((C9)
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Appendix B

Site Photographs

Appendix B – Basset Creek Restoration Project Feasibility Study Wetland Delineation Site Photos

Photo 1 – November 25, 2015 Wetland 1 Wetland 1 is located on the west side of Basset Creek across from the abandoned Fruen Mill. It is seasonally flooded by Basset Creek during the growing season. Soils were saturated to the surface throughout most of the basin and it is sparsely vegetated. Upland side slopes leading into Wetland 1 are approximately 15 percent. **Photo 2** – November 25, 2015 **Basset Creek Study Reach** Reach segment looking downstream between Wetlands 1 and 2. Fruen Mill is pictured on the east side of Basset Creek. Shoreline is mostly riprap, but some of the creek edges are concrete. Photo 3 – November 25, 2015 Wetland 2 Wetland 2 is a seepage wetland. This photo shows where Wetland 2 connects with Basset Creek. Water drains from Wetland 2 into Basset Creek at this point.

Appendix B – Basset Creek Restoration Project Feasibility Study Wetland Delineation Site Photos

Photo 4 – November 25, 2015

Wetland 2

Facing southwest toward forested upland. Wetland 2 is much higher in elevation than Basset Creek but much lower in elevation than the adjacent uplands to the west. The small channel in this photo shows water draining from Wetland 2 into Basset Creek. Wetland 2 is dominated by reed canary grass and cattails but there are also shrubs and a few trees present. Bare saturated soil is present near the seepage area.

Photo 5 – November 25, 2015

Basset Creek Study Reach

Typical view of Basset Creek just east of Cedar Lake Road facing downstream to the east. Much of the creek edges are steep and undercut.

Photo 6 – November 25, 2015

Basset Creek Study Reach

Another view of Basset Creek facing east further downstream from Photo2.

Appendix B – Basset Creek Restoration Project Feasibility Study Wetland Delineation Site Photos

Photo 7 – November 25, 2015 Wetland 3	
South portion of ditched Wetland 3. Soils are saturated within 12 inches of the soil surface in some areas. Dominant vegetation consists of reed canary grass, giant goldenrod and willow species.	
Photo 8 – November 25, 2015 Wetland 3	
Central portion of ditched Wetland 3 has standing water up to 3 inches and is dominated by narrow-leaf cattail.	
Photo 9 – November 25, 2015 Wetland 3	
The northern portion of ditched Wetland 3 is inundated between 5 inches and 12 inches. Most of this area does not have emergent vegetation.	