MITIGATION MONITORING REPORT

ONSITE PCN 19207
WETLAND MITIGATION SITE
1st ANNUAL REPORT

Project No. AC-SOI-SCB-7-008(026)174

PCN 19207

ND 50 to US 52
Burke County

Prepared by

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
BISMARCK, NORTH DAKOTA

http://www.dot.nd.gov/

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10/2015

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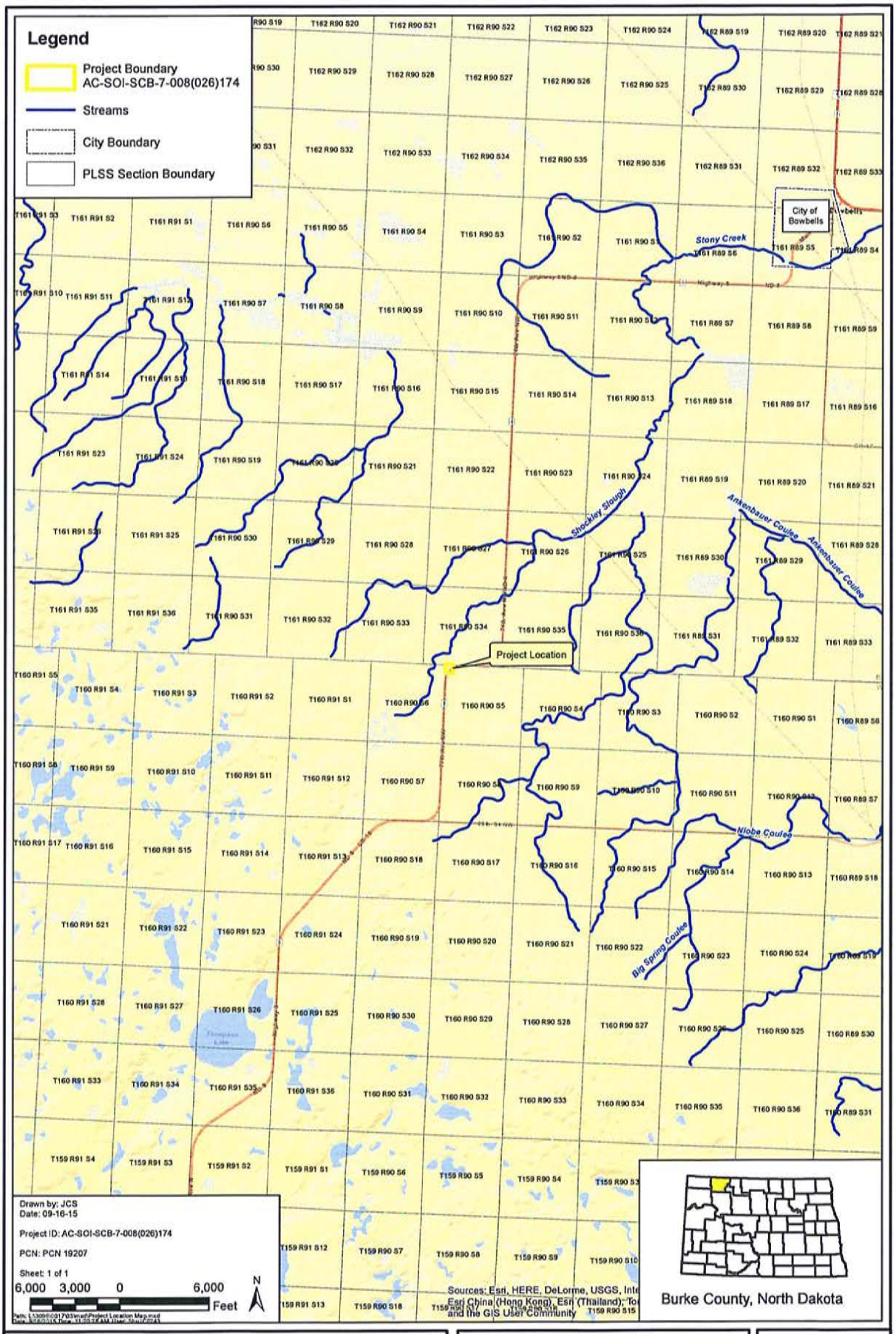
I. Onsite Mitigation Summary

Table 1: Onsite Mitigation Summary
Permit Number: NWO-2011-2556-BIS

Site #	PCN	Project Number	Permitted Acreage	Monitored in 2015 acres	Monitored in 2015 Corrective Actions Needed
1	19207	AC-SOI-SCB-7-008(026)174	1.04	1.78	No remedial actions needed at this time.
			Totals	1.78	

Exhibits



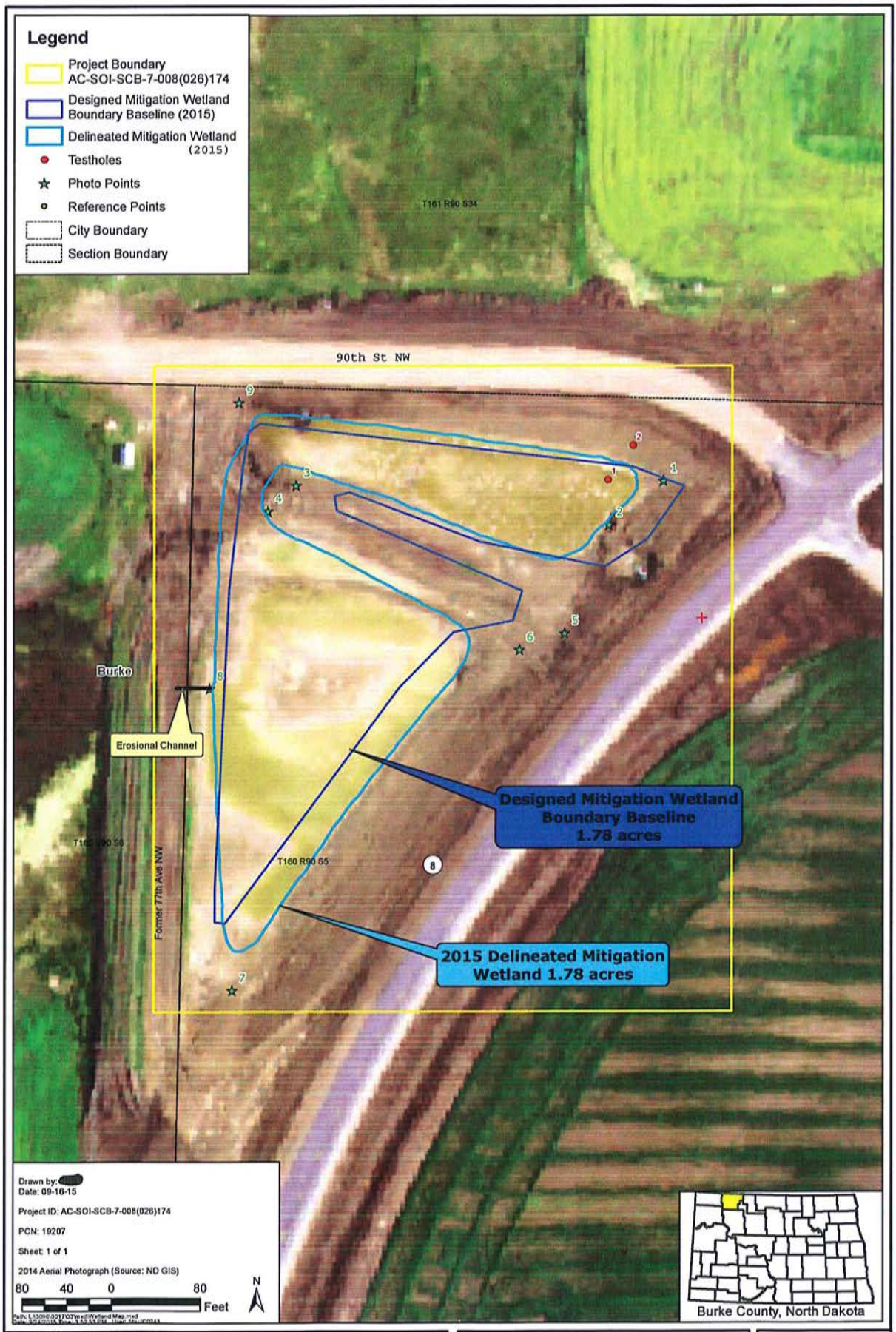
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

Project Location Map

NDDOT North Dakota Department of Transportation

OCT 2015

Exhibit 1



NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

Wetland Map (1 of 1)

NDDOT North Dakota Department of Transportation

OCT 2015

Exhibit 2

MITIGATION MONITORING REPORT

II. Background Information:

Mitigation Site: Onsite PCN 19207-ND 50 to US 52

Legal Description: NW ¼ of Sec. 5, T160N-R90W

County: Burke Permit No.: NWO-2011-2556-BIS

Monitoring Date: September 7, 2015

Permittee: ND Dept. of Transportation; Contact Cassandra Torstenson 701-328-2188

Inspected By [redacted]

Directions to Site: Site is located along ND Highway 8 in a triangle of land owned by the NDDOT approximately 3 miles south and west from the City of Coteau in Burke County.

Timeline:

- Onsite mitigation was created Fall 2014.
- 2015 Monitoring (Year 1) – 09/07/2015 – Wetland criteria is met. However, the Site is not to the size of plan sheets. Plan sheets indicate Site should be 1.99 acres. Design shape files provided showed 1.78 acre Site. Delineated Site is 1.78 acres. Permitted acreage is 1.04 acres.
- 2015 Monitoring (Year 1) – 10/13/2015 – NDDOT staff conducted a field review and determined that erosional features will not impede development of this site. NDDOT do not recommend remedial action at this time.
- Wetland Criteria Deadline – Fall 2019.

III. Mitigation Plan:

The Onsite PCN 19207 Mitigation Site was built with the intention of offsetting unavoidable loss of aquatic resource functions, values and account for a temporal loss of these functions/values.

Onsite Mitigation was planned to expand Wetland 68 by excavating material from the triangle of land owned by the NDDOT. This will connect Wetland 68 to the natural drainageway in the NW ¼ of the triangle that feeds into Wetland 201. The natural drainageway was modified when the existing roadbed of 77th Ave NW and the existing culvert were removed for the intersection realignment, and the flowline elevations were to be maintained. The bottom elevation of the mitigation area is to be approximately 0.5' lower than the outlet elevation of the culvert under

90th St NW. There is a fiber optic cable crossing this triangle and the existing ground will be left in place above the cable, creating a peninsula into the mitigation area. The overall onsite mitigation at this location will be 1.99 acres at a 1:1 ratio.

Site 1 is to be 1.99 acres but only 1.04 is required to function for US Army Corps of Engineers (USACE). The entire 1.99 acre site is to be monitored.

Performance Standards:

Wetland- Success criteria will be met when the hydrology exists at the site for sufficient time periods to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Performance standards are met when the mitigation meets wetland criteria for hydrology and hydrophytic vegetation.

Buffer- No buffer credits were proposed for this Site. No performance standards are necessary for the upland BMPs and R/W vegetation establishment.

Yearly monitoring of the Site began with a baseline in 2015 and is anticipated to be completed in 2019.

IV. Mitigation Site Condition-Narrative Summary:

1. Is the wetland meeting all three criteria (hydrology, vegetation, hydric soils)? Yes **X*** No _
   (Attach Wetland Delineation Data Form – Great Plains Version 2.0)

   If no, indicate which criteria are not being met and reason why:

   *Wetland criteria are met and Site is functioning for USACE acreage. However, Site 1 is to be 1.99 acres but only 1.04 is required to function for USACE. The entire 1.99 acre site is to be monitored. The Site is not to the size of plan sheets. Plan sheets indicate Site should be 1.99 acres. Design shape files provided showed a 1.78 acre Site. Field Delineated Site is 1.78 acres and is fully functioning. Soil samples were not taken per NDDOT guidance. However, it is believed soils are heading towards a hydric indicator due to presence of hydrophytic vegetation and adequate hydrology.

2. Indicate if wetland showing any observable sign(s) of re-vegetation, organic debris, erosion, silting-in, flooding, expansion, human use, or other problem area(s) that you may have identified or no observable change(s) from the as-built plans? Explain:

   Erosion from the culvert (under ND 8) end sloping towards the Site is prominent as eroding back towards the culvert in the ND Highway 8 embankment. The erosional feature is 1.5-4 feet wide and 2-6 feet deep. *Refer to Photo #2 taken at Photo Point 2.* A second erosional feature is occurring on the west edge of the Site. This feature is 1-2.5 feet wide and 6 inches to 1.5 feet deep. *Refer to Photo #12 and #13 taken at Photo Point 8.*

   NDDOT staff conducted a field review on 10/13/2015 and determined that the erosional features will not impede development of this site. NDDOT does not recommend remedial action at this time. However, NDDOT will review the site to determine best course of action moving forward.

   As stated above in #1, Site 1 is not 1.99 acres. However, the site is functioning for USACE acreage.

3. (if required by permit) Is the buffer meeting design plans and permit conditions? Yes_ No _
   Indicate any concerns that impact the integrity of the wetland buffer:

   Not applicable.

4. (if required by permit) Is the adjacent upland meeting design criteria? Yes_ No_
   Indicate any concerns that impact the integrity of the adjacent upland:

   Not applicable.

5. Are there any recommendations for additional corrective or remedial actions? Yes _ No X*
   Indicate any recommendations for additional corrective or remedial actions:

   *Verify acreage of Designed Site with Plans.

   The Site is functioning for permitted USACE acreage.

   NDDOT conducted a field review on 10/13/2015 and determined that the erosional features will not impede development of this site. NDDOT recommends no remedial action is required at this time. However, NDDOT will review the site to determine the best course of action moving forward.

Appendix A
2015 Mitigation Monitoring Site Photos

2015 Mitigation Monitoring Site Photos

Project Number AC-SOI-SCB-7-008(026)174 PCN 19207

	Adjacent Wetland #: Site 1 Photo #: 1 Observer: [redacted] Location: Photo Point 1. View of Site 1 from NE corner. Date/Time Taken: September 7, 2015 8:17A.M. Direction Photo is Taken: West Latitude: 48.720082 Longitude: -102.341192
	Adjacent Wetland #: Site 1 Photo #: 2 Observer: [redacted] Location: Photo Point 2. View of erosion below culvert flowing into Site 1 from the east under ND Highway 8. Date/Time Taken: September 7, 2015 8:19A.M. Direction Photo is Taken: East Latitude: 48.719971 Longitude: -102.341392
	Adjacent Wetland #: Site 1 Photo #: 3 Observer: [redacted] Location: Photo Point 3. View from NW end of peninsula in Site 1. Date/Time Taken: September 7, 2015 8:30A.M. Direction Photo is Taken: North Latitude: 48.720051 Longitude: -102.342561

2015 Mitigation Monitoring Site Photos

Project Number AC-SOI-SCB-7-008(026)174 PCN 19207

	Adjacent Wetland #: Site 1 Photo #: 4 Observer: [redacted] Location: Photo Point 3. View from NW end of peninsula in Site 1. Date/Time Taken: September 7, 2015 8:30A.M. Direction Photo is Taken: East Latitude: 48.720051 Longitude: -102.342561
	Adjacent Wetland #: Site 1 Photo #: 5 Observer: [redacted] Location: Photo Point 3. View from NW end of peninsula in Site 1. Date/Time Taken: September 7, 2015 8:30A.M. Direction Photo is Taken: West Latitude: 48.720051 Longitude: : -102.342561
	Adjacent Wetland #: Site 1 Photo #: 6 Observer: [redacted] Location: Photo Point 4. View from SW end of peninsula in Site 1. Date/Time Taken: September 7, 2015 8:33A.M. Direction Photo is Taken: South Latitude: 48.719985 Longitude: -102.342664

2015 Mitigation Monitoring Site Photos

Project Number AC-SOI-SCB-7-008(026)174 PCN 19207

	Adjacent Wetland #: Site 1 Photo #: 7 Observer: [redacted] Location: Photo Point 4. View from SW end of peninsula in Site 1. Date/Time Taken: September 7, 2015 8:33A.M. Direction Photo is Taken: Southeast Latitude: 48.719985 Longitude: -102.342664
	Adjacent Wetland #: Site 1 Photo #: 8 Observer: [redacted] Location: Photo Point 5. View from east end peninsula of Site 1. Date/Time Taken: September 7, 2015 8:8:35A.M. Direction Photo is Taken: Northwest Latitude: 48.719701 Longitude: -102.341548
	Adjacent Wetland #: Site 1 Photo #: 9 Observer: [redacted] Location: Photo Point 6. View of south bay of Site 1 from NE edge of south bay. Date/Time Taken: September 7, 2015 8:37A.M. Direction Photo is Taken: West-Southwest Latitude: 48.719658 Longitude: -102.341715

2015 Mitigation Monitoring Site Photos

Project Number AC-SOI-SCB-7-008(026)174 PCN 19207

	Adjacent Wetland # Site 1 Photo #: 10 Observer: [redacted] Location: SW of Photo Point 6. View west from Site 1 edge from southeast of peninsula. Date/Time Taken: September 7, 2015 8:37A.M. Direction Photo is Taken: West Latitude: 48.719658 Longitude: -102.341715
	Adjacent Wetland # Site 1 Photo #: 11 Observer: [redacted] Location: Photo Point 7. View from southern edge of Site 1. Date/Time Taken: September 7, 2015 8:41A.M. Direction Photo is Taken: North Northwest Latitude: 48.718801 Longitude: -102.342755
	Adjacent Wetland #: Site 1 Photo #: 12 Observer: [redacted] Location: Photo Point 8. Erosional feature forming on west edge of Site 1. Date/Time Taken: September 7, 2015 8:44A.M. Direction Photo is Taken: West Latitude: 48.719544 Longitude: -102.342867

2015 Mitigation Monitoring Site Photos

Project Number AC-SOI-SCB-7-008(026)174 PCN 19207

	Adjacent Wetland #: Site 1 Photo #: 13 Observer: [redacted] Location: Photo Point 8. Erosional feature forming on west edge of Site 1. Date/Time Taken: September 7, 2015 8:44A.M. Direction Photo is Taken: West Latitude: 48.719544 Longitude: -102.342867
	Adjacent Wetland #: Site 1 Photo #: 14 Observer: [redacted] Location: Photo Point 9. View from NW corner of Site 1. Date/Time Taken: September 7, 2015 8:48 A.M. Direction Photo is Taken: East Latitude: 48.720251 Longitude: -102.342783
	Adjacent Wetland #: Site 1 Photo #: 15 Observer: [redacted] Location: Photo Point 9. View from NW corner of Site 1. Date/Time Taken: September 7, 2015 8:48A.M. Direction Photo is Taken: South Latitude: 48.720251 Longitude: -102.342783

2015 Mitigation Monitoring Site Photos

Project Number AC-SOI-SCB-7-008(026)174 PCN 19207

Adjacent Wetland #: Site 1
Photo #: 16
Observer: [redacted]

Location: Photo Point 9. View from NW corner of Site 1.

Date/Time Taken: September 7, 2015 8:48 A.M.

Direction Photo is Taken: Southeast

Latitude: 48.720251

Longitude:--102.342783

Appendix B
Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: PCN: 19207 | City/County: Burke | Sampling Date: 9/7/2015
Applicant/Owner: NDDOT | State: ND | Sampling Point: 1
Investigator(s): [redacted] | Section, Township, Range: S5, T160N, R90W
Landform (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): concave
Slope (%): 0-1 | Lat: 48.720082 | Long: -102.341398 | Datum: NAD 83
Soil Map Unit Name: Williams-Niobell loams, 0 to 3 percent slopes | NWI Classification:
Subregion (MLRA or LRR): F | Are climatic/hydrologic conditions of the site typical for this time of the year? Y
Are vegetation ☐, soil ☐, or hydrology ☐ significantly disturbed? | Are "normal circumstances" present? Y
Are vegetation ☐, soil ☐, or hydrology ☐ naturally problematic? | (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	Y
Hydric soil present?	*		
Indicators of wetland hydrology present?	Y		

Remarks: (Explain alternative procedures here or in a separate report.)
Mitigation wetland. *Did not dig soils due to NDDOT request.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0 = Total Cover		
Sapling/Shrub stratum (Plot size: 15 ft)			
1			
2			
3			
4			
5			
	0 = Total Cover		
Herb stratum (Plot size: 5 ft)			
1 *Typha latifolia*	60	Y	OBL
2 *Hordeum jubatum*	20	Y	FACW
3 *Juncus balticus*	10	N	FACW
4 *Eleocharis acicularis*	5	N	OBL
5 *Poa palustris*	5	N	FACW
6			
7			
8			
9			
10			
	100 = Total Cover		
Woody vine stratum (Plot size: 30 ft)			
1			
2			
	0 = Total Cover		

% Bare Ground in Herb Stratum: 0

Dominance Test Worksheet
Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across all Strata: 2 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet
Total % Cover of:

OBL species	65	x 1 =	65
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	100 (A)		135 (B)

Prevalence Index = B/A = 1.35

Hydrophytic Vegetation Indicators:
X Rapid test for hydrophytic vegetation
X Dominance test is >50%
X Prevalence index is ≤3.0*
___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: 1

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

Depth (Inches)	Horizon	Matrix Color (moist)	Matrix %	Mottles Color (moist)	Mottles %	Type*	Loc**	Texture	Remarks

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR F)**
- ☐ 1 cm Muck (A9) **(LRR F,G,H)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) **(LRR G,H)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72, 73 of LRR H)**

Indicators for Problematic Hydric Soils:

- ☐ 1 cm Muck (A9) **(LRR I,J)**
- ☐ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ High Plains Depressions (F16) **(LRR H, outside MLRA 72,73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☑ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Check here if indicators are not present: ☐

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric soil present? Y

Remarks:

*Assumed wetland contains hydric soils based on hydrophytic vegetation and hydrology. Did not dig due to NDDOT request.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☑ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☑ Aquatic Fauna (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (not tilled) (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☑ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (tilled) (C3)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)
- ☐ Frost-Heaved Hummocks (LRR F)

Check here if indicators are not present: ☐

Field Observations:

Surface water present?	Yes	☑	No	☐	Depth (inches):	3
Water table present?	Yes	☐	No	☐	Depth (inches):	
Saturation present? (includes capillary fringe)	Yes	☐	No	☐	Depth (inches):	

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: PCN: 19207 | City/County: Burke | Sampling Date: 9/7/2015
Applicant/Owner: NDDOT | State: ND | Sampling Point: 2
Investigator(s): [redacted] | Section, Township, Range: S5, T160N, R90W
Landform (hillslope, terrace, etc.): sideslope | Local relief (concave, convex, none): convex
Slope (%): 12 | Lat: 48.720167 | Long: -102.341309 | Datum: NAD 83
Soil Map Unit Name: Williams-Niobell loams, 0 to 3 percent slopes | NWI Classification:
Subregion (MLRA or LRR): F | Are climatic/hydrologic conditions of the site typical for this time of the year? Y
Are vegetation ☐ , soil ☐ , or hydrology ☐ significantly disturbed? | Are "normal circumstances" present? Y
Are vegetation ☐ , soil ☐ , or hydrology ☐ naturally problematic? | (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	N	**Is the sampled area within a wetland?**	Y
Hydric soil present?	*		
Indicators of wetland hydrology present?	N		

Remarks: (Explain alternative procedures here or in a separate report.)
Road foreslope above mitigation wetland. *Did not dig soils due to NDDOT request.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	

Sapling/Shrub stratum (Plot size: 15 ft)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5 ft)			
1 *Kochia scoparia*	30	Y	UPL
2 *Thinopyrum intermedium*	20	Y	UPL
3 *Hordeum jubatum*	20	Y	FACW
4 *Melilotus officinalis*	10	N	FACU
5 *Triticum sp.*	10	N	UPL
6 *Sonchus arvensis*	10	N	FAC
7			
8			
9			
10			
	100	= Total Cover	

Woody vine stratum (Plot size: 30 ft)			
1			
2			
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test Worksheet
Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across all Strata: 3 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index Worksheet
Total % Cover of:

OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	10	x 3 =	30
FACU species	10	x 4 =	40
UPL species	60	x 5 =	300
Column totals	100 (A)		410 (B)

Prevalence Index = B/A = 4.10

Hydrophytic Vegetation Indicators:
___ Rapid test for hydrophytic vegetation
___ Dominance test is >50%
___ Prevalence index is ≤3.0*
___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** 2

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

Depth (Inches)	Horizon	Matrix Color (moist)	Matrix %	Mottles Color (moist)	Mottles %	Mottles Type*	Mottles Loc**	Texture	Remarks

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR F)**
- ☐ 1 cm Muck (A9) **(LRR F,G,H)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) **(LRR G,H)**
- ☐ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72, 73 of LRR H)**

Indicators for Problematic Hydric Soils:

- ☐ 1 cm Muck (A9) **(LRR I,J)**
- ☐ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ☐ Dark Surface (S7) **(LRR K, L)**
- ☐ High Plains Depressions (F16) **(LRR H, outside MLRA 72,73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Check here if indicators are not present: ☐

Restrictive Layer (if present):
Type: _____ Depth (inches): _____

Hydric soil present? N

Remarks:
Did not dig due to NDDOT request.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Fauna (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (not tilled) (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (tilled) (C3)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heaved Hummocks (LRR F)

Check here if indicators are not present: ☐

Field Observations:

Surface water present?	Yes	☐	No	☑	Depth (inches):	
Water table present?	Yes	☐	No	☑	Depth (inches):	
Saturation present? (includes capillary fringe)	Yes	☐	No	☑	Depth (inches):	

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: