Appendix A6 June 2015

**NDDOT Wetland Mitigation**

**Monitoring and Success Criteria**

Monitoring Parameters: Wetlands will be monitored until hydrology and vegetation in disturbed areas is successfully established according to prescribed design plans and permit conditions. Sites will be monitored on a yearly basis until success criteria are met but not less than a 5 year period unless the USACE approves a shorter monitoring period or as required by USACE permit. Thereafter monitoring will occur on a 5 year basis. The monitoring will be completed via aerial photography. If any concerns are found, an on-site review will be conducted.

Buffers and adjacent upland, as required by agreement, will be monitored for continuity, width, and species composition until successfully established and thereafter for noxious weed invasion and encroachment.

A USACE Wetland Delineation Data Form, Great Plains Region, Version 2.0 for each monitoring event until success criteria are met. The mitigation monitoring report (Appendix U) will be completed for each Mitigation Site. The wetland (created, restored or preserved) area will be delineated and mapped annually for the first five years. Soils criteria will be documented at the end of the annual monitoring period.

Success Criteria:

Hydrophytic Vegetation: Success criteria for hydrophytic vegetation are met when the plant community has developed that meets the design criteria for the restored or created wetland. At a minimum, the wetland must meet the approved design criteria or meet/exceed the hydrophytic plant community criteria found in the 1987 Corps of Engineers Wetland Delineation Manual. \*See below

Hydrology – Success criteria for hydrology is met when the wetland is inundated or saturated for the time period indicated in the design criteria for the restored or created wetland. At a minimum, the wetland must meet the approved design criteria or meet/exceed the hydrology criteria found in the 1987 Corps of Engineers Wetland Delineation Manual. \*See below

Soils: Success criteria are met when the soils met one of the field indicators of hydric soils. Current Field Indicators of Hydric Soils of the United States can be found at ftp://ftp-fc.sc.egov.usda.gov/NSSC/Hydric\_Soils/FieldIndicators\_v6\_0.pdf

Buffers: Success criteria will be based on the requirements of the mitigation plan. Width, continuity, and species composition will meet the requirements of the plan.

Photo-Point Monitoring: Photographs are an effective and efficient method for long-term monitoring. Photos should be taken from the same designated point at approximately the same time of year during the growing season. Repeated photographs will be taken at permanent locations located by recorded GPS coordinates. Photographs that include a distinctive landmark in the background or on the horizon are easier to relocate. Previous photographs can also be helpful in "framing" the photo consistently from year to year. Photos that depict the wetland buffer will help define the setting.

MITIGATION MONITORING REPORT

Background Information

Mitigation Site: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Legal Description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

County: \_\_\_\_\_\_\_\_\_\_\_\_\_\_Wetland number(s): \_\_\_\_\_\_\_\_\_Permit No.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Monitoring Date: \_\_\_/\_\_\_/\_\_\_ Date Mitigation Complete: \_\_\_/\_\_\_/\_\_\_

Climatic/Hydrologic Conditions to Date: Wet/dry/normal (circle one)

Inspected By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mitigation Site Condition

1. Is the wetland meeting all three criteria (soils, vegetation, hydric soils)? Yes \_\_ No\_\_

 (Attach Wetland Delineation Data Form – Great Plains Version 2.0)

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

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1. Indicate if wetland showing any observable sign(s) of revegetation, organic debris, erosion, silting-in, flooding, expansion, human use, or other observable change(s) that you may have identified or no observable change(s) from the as-built plans? (Circle all applicable) Explain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. (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: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. (if required by permit) Is the adjacent upland meeting design criteria? Yes \_\_ No\_\_

Indicate any concerns that impact the integrity of the adjacent upland: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Are there any recommendations for additional corrective or remedial actions? Yes \_\_ No\_\_

Indicate any recommendations for additional corrective or remedial actions:

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