**Scope of Services Template**

Appendix E8 June 2015

Wetland Mitigation Monitoring

DATE

**I. DESCRIPTION**

FIRM will conduct wetland mitigation monitoring to help determine if criteria outlined in the mitigation site plans are being met.

The mitigation site(s) are listed in Attachment 1 and include group \_\_\_\_.

**II. SERVICES TO BE PERFORMED**

FIRM is responsible for conducting wetland mitigation site monitoring that may include wetland delineations, in accordance with the 1987 Wetland Delineation Manual, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region, as well as the NDDOT Design Manual: wetland buffer and adjacent upland monitoring. All work will be done in accordance with the mitigation plan developed for the site or bank site.

1. Project Management
2. Project Development and Staff Meetings

The Consultant Project Manager will monitor the project milestones and schedule activities to meet the project deliverable date. The Project Manager will meet with staff and coordinate schedule.

1. Coordination Meetings with NDDOT

The Consultant shall have a representative available for meetings with NDDOT to discuss and review the schedule, current status, and other issues throughout the duration of the project. Meeting minutes will be prepared and distributed to meeting attendees.

1. Coordination Meetings with Subconsultant

The Consultant shall coordinate with subconsultants as needed during the project.

1. QC/QA Reviews

The Consultants shall conduct QC/QA reviews in accordance with their QC/QA plan, as outlined in the proposal. The QC/QA process will be documented and a redline/review document shall be attached to submittals, if requested.

1. Invoicing/Progress Reporting

The Consultant shall provide monthly invoices and bi-weekly progress reports. The progress reports shall describe in detail the work performed by each task and identifies the remaining tasks. The bi-weekly progress reports and monthly invoices shall also keep track of each mitigation monitoring site by **PCN number**. The invoices ***must*** be accompanied by the SFN 58397 Consultant Billing Cover Form.

1. Monitoring Services
2. Data Collection

The Consultant will review all planning documents of the proposed mitigation sites to familiarize themselves with previously collected data and proposed wetland design and functions.

1. Wetland Delineation

The Consultant will conduct a field delineation in accordance with the methods described in the NDDOT Design Manual, Chapter II Section IV: Wetlands, Vegetation, and Environmental Permitting. See appendix A6 for required final report.

The Consultant will prepare wetland delineation maps, wetland buffer and adjacent upland maps for the mitigation sites using the most current aerial photography. The maps will depict the planned and current wetland, buffer and adjacent upland boundaries as applicable to mitigation site plans. The Consultant will collect OHW elevations in areas where applicable.

The Consultant will complete Data Sheets documenting hydrophytic vegetation, hydrology and soils for each wetland mitigation basin.

If planned success criteria, according to prescribed design plans and permit conditions are not being met, the Consultant will develop an adaptive management plan to bring the mitigation sites to original construction specifications and include in the Monitoring Report.

The Consultant will conduct photo-point monitoring; photos should be taken from the same designated point, in the same direction, 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.

The Consultant is responsible for landowner notification to access property as needed.

1. Buffer Delineation

Where applicable, the Consultant will delineate the buffer and determine if criteria are being met according to the mitigation plan applicable to each mitigation site. Adjacent vegetation required as a buffer in the mitigation plan will be monitored for continuity, width and species composition.

1. Adjacent Upland Delineation

Where applicable, the Consultant will delineate the adjacent upland and determine if criteria are being met according to the mitigation plan applicable to each mitigation site. Adjacent vegetation required as a buffer in the mitigation plan will be monitored for continuity, width and species composition.

1. Wetland, buffers and adjacent upland boundaries will be surveyed using s sub-meter precision GPS unit (Trimble Pro XT).
2. Mitigation Site Monitoring Report

The Consultant will prepare a Mitigation Site Monitoring Report in accordance with the NDDOT Design Manual, Chapter II Section IV “Wetlands, Vegetation, & Environmental Permitting”, Appendices A7 and A8 and the North Dakota Wetland Mitigation Guidance Document.

Sites will be monitored on a yearly basis until success criteria are met, but not less than a 5 year period unless the US Army Corps of Engineers (USACE) approves a shorter monitoring period or as required by USACE permit.

1. Project Deliverables

All project data will become the property of NDDOT upon completion of the final submittal. Final monitoring report with final shape files and photos will be generated and provided to NDDOT.

All project information will be submitted in the following formats and standards:

* MS Word and MS Excel
* Adobe Acrobat (standard or compatible)
* ArcGIS
	+ Submeter GPS Accuracy
	+ Collected using UTM Zone 14
	+ Shape files submitted as polygons, points or lines with project information
	+ Attributes of shape files filled out with project information per example in the Design Manual – Reference and Forms
* MicroStation 8.11.07 (V8i)
* GEOPAK 8.11.07 (V8i)
* NDDOT CADD Manual
* NDDOT Design Manual
* NDDOT Design Manual – Chapter II, Section IV
* NDDOT Noise Policy and Draft Template

III. NDDOT Responsibilities

1. Project Maps

Mitigation site plans and shape files will be provided by NDDOT.

1. Meetings with NDDOT

As requested by the NDDOT or the consultant, meetings can be arranged to discuss procedural items and deliverables expectation.

1. Liaison Assignment

NDDOT will assign a wetland specialist to each consultant. The wetland specialist will be available to attend one day in the field during the field delineation to increase collaboration at beginning of field season. The wetland specialist will also be available to spend one working day in the office with the consultant, at the local office nearest to the NDDOT Central Office, post processing data to improve the delineation process.