

Exhibit ____
SCOPE OF SERVICES

CONSTRUCTION ENGINEERING
for

Project Name: _____
Project Number: _____
Control Number: _____

A. PROJECT DESCRIPTION

This scope provides for construction engineering services for _____ in _____ County, Nebraska. The project consists of the following improvements: _____

_____, (Consultant) shall serve as agent for _____, (LPA), representing the LPA in all matters related to construction engineering services for this project.

It shall be the responsibility of the Consultant to administer, monitor, and inspect construction such that the project is constructed in conformity with the plans, specifications, and special provisions.

The Consultant shall inspect the Contractor's work to determine the progress and quality of work, identify discrepancies, report significant discrepancies to the LPA and Department, and direct the Contractor to correct such observed discrepancies.

B. APPLICABLE PUBLICATIONS

Work shall be done in accordance with the following materials as currently adopted at the time of letting:

1. AASHTO Standard Specifications for Transportation Materials and Methods of Sampling and Testing
2. The ASTM Standards
3. NDOR Materials Sampling Guide
4. NDOR Construction Manual
5. NDOR Standard Specifications for Highway Construction
6. Project Plans
7. Contract Special Provisions
8. Manual on Uniform Traffic Control Devices (MUTCD) and NDOR's supplement to the MUTCD.
9. NDOR Final Review Manual
10. NDOR Standard Method of Tests for Laboratory and Field

C. LPA SHALL PROVIDE

The LPA, on an as needed basis, will furnish the following documents for the project.

1. Project description
2. Electronic Construction Plan files including current aerial photographs with project alignment, existing and new rights-of way (ROW) and easements, and LOC, if available
3. Two copies of the Plans and Special Provisions
4. Roadside safety guidelines (Survey Crew Traffic Control Policy, see NDOR website)
5. Survey Field Books with control points and bench marks
6. NEPA Document
7. Other

These documents may be provided in either paper or electronic format.

D. CONSULTANT SHALL PROVIDE

1. Project Management and Coordination. This task includes activities to initiate and monitor project schedules, workload assignments and internal cost controls throughout the project. Also included are efforts to prepare and process invoices and monthly progress reports; prepare project correspondence with the LPA and/or NDOR; maintain project records; and perform other duties of the Project Manager as defined in the NDOR Standard Specifications for Highway Construction.
 - 1.1 Project Management activities shall include the following:
 - Project Management – Provide management of project including staffing, scheduling, invoicing, progress reports, and coordination with designer.
 - Prepare Change Orders and submit copies to the appropriate parties for approval and full execution.
 - Maintain detailed Project Records and keep them current. All records shall be available at the LPA's office.
 - Generate contractor's progress and final Estimates in Site Manager
 - Review Contractor's Construction Schedule
 - Coordinate with LPA and RC regarding all project activities.
 - Make entries of project data and diary information into Site Manager on a daily basis. Insure that inspectors and lab personnel are maintaining appropriate daily work reports and all material records.

2. Meetings. Project staff will meet with the LPA, the Contractor, and NDOR when requested by the State, and prepare minutes of the meeting. For some projects, a public meeting may be held and the consultant's attendance may be required.
 - 2.1 Construction Inspection Planning Meeting - The LPA shall coordinate this meeting prior to start of construction to ensure roles and responsibilities are clear. Attendees should include the LPA RC, construction inspection personnel and NDOR State Representative.
 - 2.2 Pre-Construction Meeting - Prepare the agenda, attend, and distribute meeting notes.
 - 2.3 Construction Progress Meetings - Prepare the agenda, attend, and conduct periodic progress meetings with the LPA and/or NDOR personnel, contractor, sub-contractors, utility personnel, and other agencies affected by the project. FHWA shall be included for full Federal oversight projects. There will be approximately [REDACTED] meetings.
 - 2.4 Public Meeting (If Required) - Assist the LPA with scheduling and conducting a Public Meeting with Contractor and Residents prior to the start of project.
 - 2.5 Assume [REDACTED] trips to the project site for meetings.

3. Traffic Control Plan. Consultant shall prepare a traffic control plan for the project site. These plan sheet(s) are to be signed by a Professional Engineer licensed in the State of Nebraska. Traffic Control plans shall be reviewed by the State Representative prior to placing in service (Owner will use checklist 12-72 to audit and document the Consultant's completion of this activity). Once the plans are completed, they are to be submitted to the Person of Responsible Charge (RC).
 - 3.1 Prepare Traffic Control Plan in accordance to NDOR Standard Plans, MUTCD and the NDOR Supplement to the MUTCD. Sign and seal plans.
 - 3.2 Review and approve Traffic Control Plan (If Completed by Contractor) for conformance to the Contract's Special Provisions.
 - 3.3 Submit Plans to the RC for their records.

4. SWPPP Inspections/Manual Updates. Consultant shall conduct inspections bi-weekly and after every ½" or greater rain event according to permit regulations. The Stormwater Pollution Prevention Plan (SWPPP) Manual shall be updated according to NDOR and/or LPA requirements.

- 4.1 Conduct [] Inspections
 - 4.2 Update SWPPP Manual and Temporary Erosion Control Plan
 - 4.3 Assume [] trips to the project site for SWPP Inspections.
5. Construction Survey/Staking. The following tasks are required if the Consultant is providing Construction Surveying and Staking. This work shall be done in accordance with the NDOR Construction Manual.
- 5.1 Provide coordination of staking needs with Contractor.
 - 5.2 Consultant shall verify and re-establish if necessary the survey control used during the preliminary engineering.
 - 5.3 Stake limits of construction throughout project.
 - 5.4 Mark removals including pavement removal limits. Stake right-of-way and construction easements.
 - 5.5 Provide slope stakes for grading
 - 5.6 Provide paving hubs. For structures storm sewer and pipe culverts, the consultant will provide grade stakes.
 - 5.7 Provide cross-section for new culverts before providing a Culvert Order List to Contractor.
 - 5.8 Stake fence relocation and guardrail.
 - 5.9 Stake silt fence.
 - 5.10 Verify existing tie-in elevations and locations and adjust new pavement grades to meet existing pavement.
 - 5.11 Assume [] trips to the project site for construction survey/staking.
- All items will be staked one time. Except for re-staking required for staking done incorrectly, re-staking will be considered out-of-scope. Consultant will invoice the LPA for the re-staking. If re-staking is required because of the activities of the Contractor, the fee for re-staking will be withheld from Contractor payment.
6. Construction Consultation/Site Manager & Daily Work Report (DWR). Consultant shall contact RC/Designer as needed to obtain plan clarifications/interpretations. Maintain and review project materials and promptly enter information into Site Manager.
- 6.1 Construction Consultation/SiteManager & Daily Work Report (DWR)
 - Review and Enter Data into SiteManager
 - Maintain Project Field Diaries, Files, and Record data in SiteManager
 - Document and Review Daily Work Reports (DWRs)
7. Girder Shim Surveying. (Bridge Projects Only) The Designer (PE) shall determine the girder shim values, which are defined as the differences in elevation between the top-of-girder elevation and the top-of-slab elevation necessary at known points along the length of the girder during placement of the deck to result in the finished top-of-slab elevation to be correct after the girder has deflected under the weight of the slab.
- 7.1 Girder Shim Surveying
 - Shim shots will be taken at the locations as determined by the designer.
 - Elevations and rod readings need to be recorded by Consultant and submitted to PE at the time the shim shots are taken.
8. Perform Bearing Calculations. If pile driving is required on the project, the Consultant shall perform bearing capacity calculations in accordance with the NDOR Construction Manual.
- 8.1 Perform Bearing Calculations
9. Construction Inspection. Consultant shall perform material sampling and testing and complete inspection work and project management in accordance with the references list in Section B of this Exhibit. Consultant shall assume the duties of "Inspector, (also referred to in the NDOR Construction Manual as "Construction Technician"), "Project Manager", and also "Engineer" (unless the context of use of the term "Engineer" would otherwise require), as those terms are defined and duties set out in the Standard Specifications for

Highway Construction. Consultant shall assume that it is responsible for all duties of the "Engineer" unless notified otherwise by RC on behalf of LPA.

9.1 Construction Inspection: Duties for construction inspection will include, but are not limited to, the following items:

- Conduct wage rate interviews and review payrolls for correctness and Davis-Bacon Wage Rate compliance
- Verify that the performance of the work is in conformance with the plans, specifications, and special provisions.
- Conduct reviews for compliance with Disadvantaged Business Enterprise (DBE) commitments
- The Consultant is required to use the Environmental Compliance Oversight Database (ECOD) software to document assessment of and compliance with all environmental commitments for the project. An Environmental Compliance Inspection Audit will be conducted by NDOR personnel. (NDOR will use checklist 12-20 to document the audit of the Consultant.) The ECOD system is to monitor and document construction activities for compliance with NEPA (Environmental Review Checklist, Section 404, NPDES, SWPPP, Threatened and Endangered Species, etc.)
- NDOR will provide the Initial Threatened and Endangered Species surveys required as outlined in the conservation conditions; and follow up survey training for the Consultant's environmental inspection personnel. Follow-up surveys as may be required will be the responsibility of the Consultant. Any required surveys for compliance with the Migratory Bird Treaty Act will also be the responsibility of the Consultant. NDOR will not conduct these surveys.
- The Consultant will provide NDOR 30 days advance notice of the need for the initial T&E surveys so that NDOR personnel can be scheduled to perform this work.
- Review work zone traffic control devices daily and, at a minimum weekly interval, conduct a nighttime drive through review of temporary traffic control devices (per ATSSA Quality Standards for Work Zone Traffic Control Devices). Perform reflectivity check (DR form 481) of temporary devices at the start of construction activities and at six (6) month intervals or as conditions warrant.
- Collect, sign/date, and file all delivery tickets and material certifications. All required material certifications shall be submitted to NDOR Materials & Research Division accompanied by a completed DR-12 sample ID form or Site Manager Sample Record ID.
- Consultant shall forward shop drawings to the RC for review and approval by the design engineer. Shop drawing review is not part of the scope of services for this construction engineering agreement
- Draft and review change order or time extension request including explanation of the issue and resolution and the justification for accepted prices and forward to RC. Once reviewed by NDOR and FHWA, proceed with the approval process. Forward a signed hardcopy to NDOR for further processing.
- Communicate and coordinate plan revisions and change orders with the Designer.
- Prepare a field checked culvert order list
- Prepare guardrail order list
- Generate periodic progress estimates using SiteManager and forward to RC for further approval.
- Review critical path schedule prepared by the Contractor for appropriateness and Current Controlling Operation (CCO) designation.
- On bridge projects, the Inspector shall take periodic survey shots with the assistance of one of the Contractor's to ensure compliance with the plans.
- Locate permanent pavement markings

9.2 Measure, calculate, and document quantities of pay items

- 9.3 Keep all records and data up-to-date so that all necessary information appears on the Weekly Report of Working Days when they are generated at mid-week.
- 9.4 Assume [] trips to the site for construction inspection

- 10. Perform Material Sampling and Testing. The Consultant shall perform material testing as required in accordance with the references list in Section B of this Exhibit. All testing and sampling personnel shall be certified to perform these duties in accordance with the NDOR Materials Sampling Guide section 28. All non-NDOR Laboratories shall be pre-qualified by NDOR's Materials and Research Division to conduct the testing they are contracted to perform.

NDOR SHALL PROVIDE:

Typical testing done by NDOR Materials and Research's Central lab (sampling and delivery for these materials is done by Consultant and submitted to NDOR):

All Aggregate

- Quality and Soundness acceptance testing
- Gradation verification testing

PG Binders & Emulsions

- All required acceptance testing

All Steel Products

- All testing required for heat number pre-approval and acceptance testing

Chemical Lab

- All required source pre-approval and acceptance testing

Smoothness

- NDOR will run all 10% verification testing for projects with Smoothness
- Specifications for pavement. NDOR will perform bridge smoothness testing on bridges receiving pavement on either side of the bridge

CONSULTANT SHALL PROVIDE:

(List of tests to be provided by NDOR)

- 10.1 Collect, verify, document and deliver all samples to testing lab
- 10.2 Collect, verify, document and deliver a copy of all required material certifications to the NDOR Materials and Research Central Lab.
- 10.3 Review and document test results of all samples and coordinate with owner for acceptance and incorporation into the project.
- 10.4 Assume [] trips to the project site for Material Sampling and Testing.

- 11. As-Built Drawings. Prepare As-built drawings according to the LPA manual and the current directions from the NDOR Final Review Section.

11.1 As-Built Drawings

- 12. Final Inspections. Consultant shall prepare a punch list of items for the project site and conduct a final project walk-through inspection with the LPA RC and NDOR State Representative to verify that corrective work identified on the punch list has been completed.

12.1 Walkthrough of Site and Preparation of Punch List

- 12.2 Review Project to verify that Punch List work has been completed (Owner will use LPA Manual checklist 12-75 to audit and document the Consultant's completion of this activity)

- 13. Project Closeout. Assist RC with compiling project construction records as requested. Assemble and transmit Final Construction Records to LPA RC in paper format (printed single sided), including:

- 13.1 Project Closeout activities shall include the following:
- Project Manager’s Final Estimate
 - Copy of Consultant PM’s (representing LPA) Concurrence/Non-Concurrence Letter w/ Certified Mail Receipt Enclosed.
 - Copy of Contractor’s signed Concurrence/Non-Concurrence Letter
 - Memo of Major Item Review
 - Memo of Time Allowance Review (Required only if the Contractor has overrun on the Contract Time Allowance.)
 - Borrow Site Memo
 - City Agreement Letter
 - Project Completion Memo - The Consultant’s PM should perform this in an e-mail to the NDOR Rep with the required information – check with the NDOR Rep for this. The Consultant should ensure that the LPA RC sends a letter of Tentative Acceptance (per NDOR format) to the Contractor – send copies to the NDOR Rep.
 - Sign Deduction Memo (If required)
 - Material Review Memo
 - SiteManager PM Diary Report
 - SiteManager Contract Item Report for all Contract Items
 - All NDOR Spreadsheets and Workbooks used for Contract Item supportive documentation.
 - All Contractor-provided Asphalt QA/QC Test Results (asphalt projects)
 - Project Culvert Field Book with information per the NDOR Construction Manual
 - Signed and stamped As Built Plans (full size)
 - Copy of Evaluation(s) of Contractor
 - LPA CE Project Closeout Checklist (LPA Manual Checklist 14-10)
 - Deliver Final Construction Records to LPA RC, including Form DR-299 - Project Construction Conformity Certification and ensure that the LPA RC completes the LPA RC Project Closeout Checklist (LPA Manual checklist 14-20 and includes it in the Final Records provided to the NDOR State Representative for review)

14. Other. (Additional project specific tasks may be added here)

- 14.1 Other
- 14.2 Other

E. SCHEDULE

- 1. Notice to Proceed: _____
- 2. The Consultant shall provide a schedule of activities and deliverables upon award