BOARD OF COUNTY COMMISSIONERS  
SARPY COUNTY, NEBRASKA

RESOLUTION APPROVING AND AUTHORIZING CHAIRMAN TO SIGN SUPPLEMENT #1: PRELIMINARY AND FINAL DESIGN FOR SARPY COUNTY BRIDGE NUMBER 147 PROJECT NUMBER C-77(10-5)A WITH ALFRED BENESCH AND COMPANY

WHEREAS, pursuant to Neb. Rev. Stat. § 23-104(6), the County has the power to do all acts in relation to the concerns of the County necessary to the exercise of its corporate powers; and,

WHEREAS, pursuant to Neb. Rev. Stat. § 23-103, the powers of the County as a body are exercised by the County Board; and,

WHEREAS, general supervision and control of the public roads of each county is vested in the County Board by virtue of Neb. Rev. Stat. §39-1402; and,

WHEREAS, Sarpy County has previously entered into an agreement with Alfred Benesch and Company for professional consulting services in conjunction with the preliminary design and final design for 168th Street from Morgan Avenue south 0.75 miles to I-80 including Bridge #147 over Wehrspann Creek in Sarpy County via Resolution 2016-374; and,

WHEREAS, Sarpy County wishes to enter into Supplement #1 to address the necessary steps required for reconstruction of Bridge Number 147 over Wehrspann Creek.

NOW, THEREFORE, BE IT RESOLVED BY THE SARPY COUNTY BOARD OF COMMISSIONERS THAT this Board hereby approves and authorized the Chair to sign Supplemental #1: Preliminary and Final Design for Sarpy County Bridge Number 147, Project Number C-77(10-5)A with Alfred Benesch and Company, a copy of which is attached hereto.

The above Resolution was approved by a vote of the Sarpy County Board of Commissioners at a public meeting duly held in accordance with applicable law on the ___28th____ day of August, 2018.

Attest

SEAL

[Signature of Chairman]
Sarpy County Board Chairman

[Signature of County Clerk]
County Clerk
MEMORANDUM

To: Sarpy County Board of Commissioners
From: Dennis L. Wilson, County Engineer
Subject: Alfred Benesch and Company for Preliminary Engineering
Date: August 20, 2018

I recommend approval of the Alfred Benesch Supplement #1 to the Agreement for Professional Services in conjunction with Sarpy County Project C-77(10-5)A, 168th Street from Morgan Avenue south 0.75 miles to I-80, including Bridge #147 over the Wehrspann Creek, for a Lump sum of $39,832.00. This is for additional costs for the Hydrology and Hydraulic Study and Environmental Permitting. We will be utilizing the ASIP fees (NW Quadrant) as per the current budget.

DLW/bjh
SCOPE OF SERVICES
SUPPLEMENT #1
PRELIMINARY AND FINAL DESIGN
SARPY COUNTY BRIDGE NUMBER 147
Proj. No. C-77(10-5)A

ATTACHMENT A

PROJECT DESCRIPTION

The scope of the project consists of the reconstruction Bridge #147 over Wehrspann Creek and 0.75 miles of 168th Street in rural Sarpy County. The roadway limits are from Morgan Avenue south to Interstate-80. The existing bridge is a multi-span steel bridge that is in need of replacement. The work required for this project includes: data collection, geotechnical engineering, and structural design of a replacement structure as detailed in this scope of services, environmental permit application, design of temporary and permanent erosion controls, preliminary and final roadway design, and utility coordination.

TASK 7 ENVIRONMENTAL PERMITTING

c. Section 404 Permit Application

Based upon the results of the wetland delineation and proposed roadway improvements, it has been determined that wetland impacts will exceed 0.1 acres. Therefore, these impacts will require mitigation. Based upon preliminary conversations with the USACE and the County, mitigation may be allowed at a wetland mitigation bank or another mitigation site being constructed by the County. It is not anticipated that a dedicated on-site or off-site mitigation site will be required. If site specific mitigation is required, additional scope will be needed.

Benesch anticipates that the following tasks will be required:

- Coordination and meetings with the USACE and County, and/or Bank owner
- Documentation of credit transfers and applicable approvals

f. USACE Dam Site 20 Property Coordination

This work consists of obtaining authorization from the United States Army Corps of Engineers, pursuant to 33 USC 408. This regulation is administered by the Omaha District office through the Missouri River Project Office, due to the presence of Dam Site 20 (a.k.a. Wehrspann Lake). The proposed project will have impacts to the USACE property and the dam site in the form of grading, permanent easement acquisition, removal of trees, and connection of a trail to the property. Due to the replacement of the bridge, possible impacts to the flood storage area and possible mitigation of flood storage and tree impacts, the USACE will be required to review hydraulic data, design data, and other project data to complete their own Categorical Exclusion (CE) under the National Environmental Policy Act (NEPA).

Furthermore, due to existing agreements between the USACE and the Papio-Missouri River Natural Resources District (PMRNRD), additional time will be needed to document, coordinate,
and negotiate an appropriate inter-local agreement between Sarpy County and the PMRNDRD that satisfactorily addresses any requirements from the USACE, such as tree mitigation success, monitoring of temporary wetland impacts,

Benesch anticipates that the following tasks will be required:

- Meetings and Coordination with USACE and PMRNDRD
- Documentation and submittals to USACE
- Reviews and Revisions

**TASK 9 HYDROLOGY AND HYDRAULICS**

This work consists of completing an H&H study for Bridge No. 147 on 168th Street. After review of the existing H&H study from another engineer it was determined that the proposed structure was not of sufficient size to meet the requirements for Sarpy County Zoning Regulations. Using the data from the existing report and data from the Corps of Engineers a new study will be developed to be approved by the County. Benesch will produce the report and recommendation for the new proposed structure.

a. **Develop Existing Conditions Model**
   - Acquire all necessary topographic survey: Full topo along roadway and channel with minimum limits of approximately 40’ on either side of roadway centerline and extending approximately 200’ beyond each end of bridge approach; All existing bridge geometric information including low chord elevations; One additional hydraulic cross section cut 100’ upstream from the face of bridge extending for a distance of 300’ from either side of channel (600’ total); One additional hydraulic cross section cut 300’ downstream from the face of bridge extending a distance of 200’ from either side of channel (400’ total).
   - Acquire USACE modeling of downstream silt collection dam to be used as downstream water surface condition.
   - Develop a hydrologic model of the watershed using the SCS Method within HEC-HMS software as well as USGS Regression equations and compare results with previous studies to determine most appropriate flow values to use in the hydraulic model.
   - Develop an Existing Condition HEC-RAS hydraulic model using the above information and supplemented with LIDAR, Aerial Imagery, and any other available GIS data.

b. **Develop Proposed Conditions Model**
   - Copy of Existing Condition HEC-RAS model with proposed bridge/roadway/grading alternatives.

c. **Prepare Technical Memorandum** summarizing modeling and results to be submitted with Floodplain Permit Application
   - Must show no more than a one (1) foot rise in water surface upstream of bridge; However, due to structures being located within floodplain just upstream of
bridge, I would say that this project requires that we demonstrate a No-Rise to base flood elevations upstream compared to existing conditions.

- Narrative
- Results Summary Tables and Comparisons
- Exhibits
- Model Output
- Prepare and Submit Floodplain Permit Application as well as No-Rise Certification

IN WITNESS WHEREOF, the parties hereto have made and executed this AGREEMENT:

BY:  

CLIENT

PRINT NAME: Donald R. Kelly
TITLE: Sarpy County Board Chairman
DATE DATE: August 28, 2018

AUTHORIZED REPRESENTATIVE

BY:  

ALFRED BENESCH & COMPANY

PRINT NAME: Jeffrey A. Sockel, PE
TITLE: Sr. Vice President, Omaha Division Mgr
DATE: August 14, 2018

AUTHORIZED REPRESENTATIVE

BENESCH OFFICE: Omaha
ADDRESS: 14748 W. Center Road, Suite 200

Deputy Sarpy County Attorney
Omaha, NE 68144
## FOR ENGINEERING SERVICES:

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### FEE SUMMARY

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**TOTAL DIRECT LABOR COSTS**  
294  
$39,832.00

**PROJECT TOTAL FEE**  
$39,832.00

Attachment A