



Banner Associates, Inc.  
409 22nd Ave So, Box 298  
Brookings, SD 57006  
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Toll Free 855.323.6342  
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June 9, 2020

Mr. Robert Hill, Brookings County Planning and Zoning Director  
520 3<sup>rd</sup> Street, Ste 200  
Brookings, SD 57006

Re: Letter of Contract - Engineering and Environmental Services – Feasibility Memo  
**Medary Township Big Sioux River Diversion Channel Dike Reestablishment**

Dear Mr. Hill:

Banner Associates, Inc. ("Banner") is pleased to submit this letter of contract for Engineering and Environmental Services for the above referenced project within Medary Township and Brookings County, South Dakota. See Attachment 1 for the project location. It is our understanding the hydrology of the Big Sioux River changed in this area after 2011, causing flooding of farmland and concerns for the transportation infrastructure. Natural Resources Conservation Service (NRCS) wetland easements are present in the area and the wetlands and waterways are also jurisdictional under US Army Corp of Engineer (USACE) regulations.

Scope of Services:

1. A feasibility memo will be completed to determine if a feasible option is present to address the issues with the hydrology shift of the Big Sioux River in this area.
  - a. Purpose and Need for the Project- Banner will work with Brookings County and Medary Township to identify the needs to consider options for a structure that would return the hydrology in this area to conditions that existed prior to the diversion channel dike washing out.
  - b. Survey cross sections for the main channel and diversion channel. A limited topographical survey will be necessary in the location where a dike once existed. A structure survey of any residential and non-residential homes will also include the structures at 2502 W 44<sup>th</sup> Street South, Brookings, SD (Rolfe Behrend).
  - c. Options- Banner will consider up to three options. No preliminary design will be completed, a concept for each option will be described and utilized to consider impacts to floodplain, wetlands and waterways.
    - i. Option 1- Constructing an earth dike at the location noted on Attachment 1.
    - ii. Option 2- Constructing a controlled outlet at the location noted on Attachment 1.
    - iii. Option 3- Constructing a dike in the right-of-way of 216<sup>th</sup> Street.
  - d. Impacts to Floodplain and Wetlands and Waterways. Banner will consider the impacts to these areas by each of the three options. The following further clarifies the analysis:
    - i. Floodplain
      1. A 2D hydraulic model will be run to quantify the change in surface water flow and surface water elevations between the existing conditions and

options. The model will be based on 2012 LIDAR elevation information and survey data. The model terrain will be modified for each option.

2. Hydrological scenarios used for the hydraulic model input will include:
    - a. A low flow as determined by NRCS methods, and
    - b. 100-year rain-on-grid rainfall event.
  - ii. Wetlands and Waterways
    1. Complete a desktop delineation to determine the areas of wetland and Ordinary High Watermark (OHWM) for the waterways. Show the boundaries on figures within the memo.
    2. Review the NRCS wetland easements provided by Brookings County or Township. Will identify the requirements within the easement language and the wetland areas that are protected under the easement. Show the easements on a figure within the memo.
    3. Calculate the acres of wetland and waterway impacted due to each option. The calculations will be based on the hydraulic analysis and desktop wetland delineation.
  - iii. Matrix that shows the impacts due to each option to floodplain and wetlands; a discussion of Banner's recommendation on if a feasible option is present and what the potential costs for wetland mitigation would be.
2. Project Coordination- Banner will complete the following coordination:
- a. Coordinate with Brookings County and Township to identify the needs for the project and gather information for reference.
  - b. Coordinate with NRCS and USACE to discuss the proposed methodology to determine impacts to wetlands and waterways due to the proposed options. This will include a meeting with staff from NRCS headquarters during the project. Assumes meetings will be held via video conference.
  - c. Discuss with USACE potential impacts to wetlands and waterways, discuss permitting that will be required.
  - d. Coordinate with Brookings County and Medary Township to discuss results of the memo and explain the impacts each option would have on floodplain, wetlands and waterways.
  - e. Meet with NRCS and discuss the recommended option and results of analysis if an option is determined to be feasible.

#### Submittals:

A draft feasibility memo will be provided for review by Brookings County and Township. A final feasibility memo will be provided that addresses any comments received.

#### Exclusions:

Based on our understanding of the project, the following items are excluded from our Scope of Services:

- Geotechnical Investigation,
- Field wetland delineation and Environmental Assessment Document



- County, State, and Federal permitting or Drainage Board approval,
- Hazardous Materials,
- Historical Records Search,
- Construction Staking,
- Construction Administration Services.

Client Obligations:

- Provide NRCS wetland easement documents.
- Obtain right-of-entry for Banner Associates staff

Engineering Services Compensation:

We are proposing to complete the above described Engineering and Environmental Services for the hourly (not to exceed) amount including reimbursable expenses of \$40,000 plus applicable taxes. These fees do not include cost for any permits required by agencies for review. Any work that falls outside this scope will be billed separately based on our hourly rates in accordance with the attached fee schedule.

This Letter of Contract incorporates and includes Banner’s Schedule of Labor Rates and Expenses and General Conditions.

If you have any questions regarding this contract, please do not hesitate to contact me.

Sincerely,

Gregg Jorgenson, PE  
Senior Vice President  
Banner Associates, Inc.

Kent R. Johnson, P.E.  
Project Manager  
Banner Associates, Inc.

Enclosure:

1. Attachment 1 – Project Location Map
2. Schedule of Labor Rates/General Conditions

ACKNOWLEDGMENT OF ACCEPTANCE

Accepted this \_\_\_\_\_ day of \_\_\_\_\_

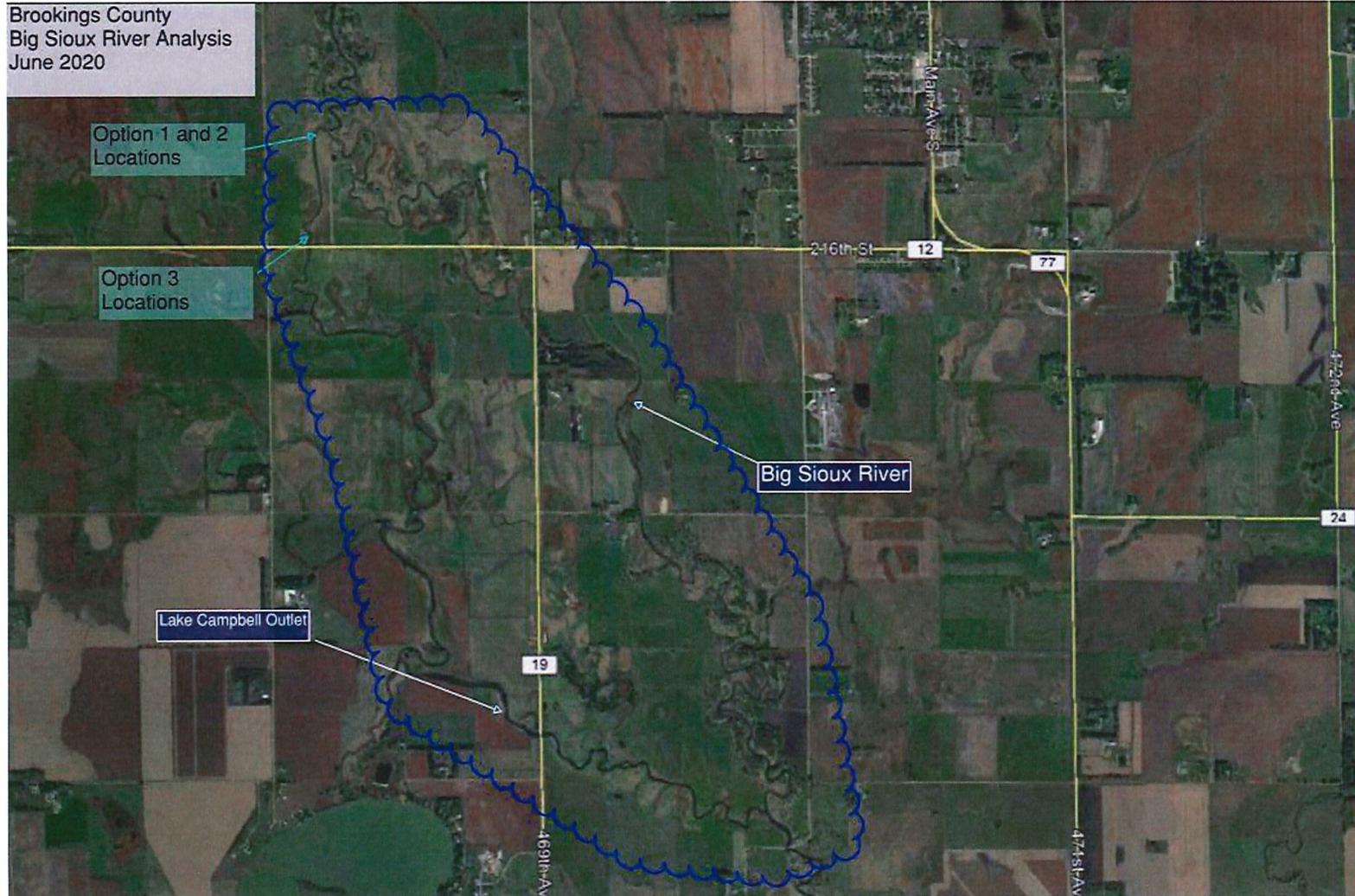
Signature: \_\_\_\_\_

Client: Brookings County



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ATTACHMENT 1





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## SCHEDULE OF LABOR RATES AND EXPENSES

January, 2020

Administrative .....	\$55.00 to \$145.00/Hour
Surveying/Geomatics .....	\$75.00 to \$130.00/Hour
Engineering Technician.....	\$65.00 to \$105.00/Hour
Engineering Intern.....	\$65.00 to \$105.00/Hour
Project Engineer .....	\$105.00 to \$145.00/Hour
Project Manager .....	\$130.00 to \$210.00/Hour

- Meals at State Rates.
- Lodging at actual cost.
- Reimbursables:
 

Mileage.....	\$0.55/Mile
Photocopy .....	0.08/Copy
Black & White 11x17 Laser Prints.....	0.15/Sheet
- All other direct project expenses at actual cost of materials.

Rates are subject to change annually.