CITY OF CRETE, NEBRASKA

CITY COUNCIL REGULAR MEETING

August 18, 2020

Notice of the meeting was given by posting and publishing in The Crete News, the appointed method for giving notice as shown by the Proof of Publication attached to the minutes. Advance notice of the meeting was also given to the Mayor and City Council. Pursuant to Section 84-1412(8) of the Nebraska Open Meetings Act, the City has posted a current copy of the Open Meetings Act, Laws of the State of Nebraska in the back of the Council Chambers. Additional copies are available to read. The City may consider items listed on the agenda in random order. All proceedings shown were taken while the meeting was open to the attendance of the public.

Those in attendance pledged allegiance to the flag.

1. Open Meeting

2. Roll Call

3. Items of Business

A. Review consultant design proposal for gap paving projects and consider authorizing City Administrator to proceed.

B. Consider an RFQ for consultant to conduct a feasibility study regarding constructing a new substation vs. a substation expansion.

C. Consider recommendation to City Council regarding removal of parking on Forest from 13th to 15th.

D. Consider recommendation to City Council regarding placing stop signs on 15th and Forest, northbound and southbound for a 4-way intersection.

E. Consider establishing a new rate for public parking in the downtown parking lot.

F. Discuss and provide a recommendation to the City Council on beginning condemnation proceedings to exercise the City's power of eminent domain to acquire 1146 Linden Avenue.

4. Officers' Reports

5. Adjournment

Mayor

(SEAL)

City Clerk

I, Judi Meyer, City Clerk for the City of Crete, hereby certify that the foregoing is a true and correct copy of the proceedings had and done by the Mayor and Council. I hereby certify that a copy of the Open Meetings Act was posted in the back of the Council Chambers. I certify that all of the subjects included in the foregoing proceedings were contained in the agenda for the meeting, kept continually current and available for public inspection at the office of the City Clerk. I certify that such subjects were contained in said agenda for at least twenty-four hours prior to said meeting and that at least one copy of all reproducible material discussed at the meeting was available at the meeting for examination and copying by members of the public. I certify that the minutes were in written form and available for public inspection within ten working days and prior to the next convened meeting of the City Council. I certify that all news media requesting notification concerning meetings of the City Council were provided with advance notification of the time and place of said meeting and the subjects to be discussed.

City Clerk (S E A L)

August 17, 2020

City of Crete
243 E 13th Street
PO Box 86
Crete, NE 68333

Attn: Tom Ourada, Administrator/Director of Public Works

RE: Crete, Nebraska
Crete 2020 Substation Feasibility Study
JEO Project No. 201368.00

Dear Tom:

JEO Consulting Group, Inc. is pleased to submit this letter proposal for engineering services to provide a Substation Feasibility Study to consider adding a 10 MVA transformer to the existing Braden substation or add a new substation to the City electrical infrastructure. This is to establish an optimum location to add a transformer, confirm MVA capacity size and quantity of branch feeders for improved reliability of normal and back-up redundancy operations. The study would include a review of three (3) site locations with determination of the best site location, develop preliminary site plan and one-line diagram of connections and provide an all-inclusive opinion of cost for each location option. A summary of results will be provided in technical memorandum format.

Project Background:

The City has an approximate population of 7,300 with a summer peak demand of approximately 23.0 MW. The primary loads of the City are residential, small/large commercial, industrial and public facilities.

The City is currently connected to the statewide grid with two 34.5 kV sub-transmission lines. The City owns and maintains a 6.2 MW power plant, two (2) substations with 13.8/7.97 kV distribution system and two (2) substations with 4.16/2.4 kV distribution. The distribution system has been continuously upgraded and appears to be in good condition.

Sub-Transmission

The City of Crete, NE is currently operating with a 34.5 kV “delta” sub-transmission line that serves the Mill and Braden downtown substations, Breaker 304. A second 34.5 kV “delta” sub-transmission line serves the Beyer substation, Breaker 322. The two sub-transmission lines are connected with a normal open for redundancy. The standard size of sub-transmission conductor is #477 ACSR.

4.16/2.4 kV Substations and Distribution

The Mill substation has a distribution voltage of 4.16/2.4 kV “wye” with two 3.75 MVA transformers, each transformer feeds a service bay in a metalclad switchgear. The metalclad switchgear also provides two sources of power to a grain handling facility. The Braden substation has a 7.5 MVA transformer with a distribution voltage 4.16/2.4 kV ‘wye’ that has one feeder extending to the Mill substation which is utilized as a backup and a second feeder that serves the downtown area.

13.8/7.96 kV Substations and Distribution
The downtown Braden substation has a 10.0 MVA transformer with a distribution voltage 13.8/7.97 kV 'wye' Generator No. 7 breaker and five (5) distribution feeder breakers. An additional breaker was installed in 2016 for the downtown 4.16/2.4 kV 'wye' distribution system to be upgraded and converted to 13.8/7.97 kV 'wye'. The Beyer substation has two (2) 10.0 MVA transformers with a distribution voltage 13.8/7.97 kV 'wye' and five (5) distribution feeder breakers. Three (3) feeders (north, east and south feeders) are capable of being back fed from either substation.

Existing Power Plant
The City currently has one (1) 6.2 MW diesel generator that is connected to the Braden substation.

Project Purpose:
The City desires to add a 10 MVA transformer to the existing Braden substation or add a new substation.

Optional site locations of additional transformer capacity:
1. Existing downtown Braden substation.
2. Three (3) locations, north and east part of the City of service territory.

The goals of the project are to:
1. Provide engineering analysis of existing Braden substation and three (3) additional locations of a substation for installation of a 10 MVA transformer and proposed connections to existing distribution circuits. The final location is to allow the City the most opportune location to allow for improved normal operations and additional back-up redundancy.
2. Provide all-inclusive opinion of cost established from vendors, contactors and past projects with a cost vs benefit of results for locations considered.
3. Develop a technical memorandum summarizing the conclusions and recommendations for use by the City in making future capital improvement decisions. The City council is anticipated to complete a risk assessment to determine comfort level of proposed locations.

Scope of Services:

Task 1 – Collect data: This task begins by first developing an understanding of the City's electrical distribution infrastructure. Provide a preliminary meeting with city staff to discuss options, gain more insight and determine site options. Discussion will also be included to determine if any areas with poor reliability need to be reviewed in more detail. For the two (2) substations, one-line diagrams of the existing electrical distribution connections will be reviewed. Proposed locations for a transformer will be evaluated with respect to size, location and accessibility. A field observation will allow for each location to be reviewed for all necessary requirements to connect the sub-transmission and distribution to the electric system. The City has provided peak demand data for each of the substations and branch circuits. Detailed design plans of the existing Braden and Beyer Substations have also been provided.

Task 2 – Determine KVA transformer size and quantity of distribution circuits: This task will utilize peak demand and branch feeder loading data to consider connection options during normal operation and back-up redundancy for each substation location. For each option, a simple substation one-line and highlighted distribution map with proposed branch circuits will be used for an analysis of loading and connections. This would allow for identifying any discrepancies of the existing system and options to improve results.

Task 3 – Develop site plan: This task will conceptually layout a proposed substation site plan for each location to be considered. Google earth and data collected in Task 1 will be used to determine size, location and accessibility to allow for an adequate footprint to be established.

Task 4 – Develop one-line diagram: For each location, to assist with developing the opinion of cost, a proposed one-line diagram will be developed with connections to the sub-transmission and distribution systems. This will quantize the necessary switchgear, breakers, protective devices and switching requirements of the location.

Task 5 – Opinion of Cost: For each location a high-level opinion of cost will be developed. The cost will be all inclusive and allow for the site development, fencing, ground grid, building modifications and electrical infrastructure with connections to the sub-transmission and distribution system. Vendors, contractors and previous JEO projects will be used as the basis of costs.

Task 6 – Determine optimum location: For each location, the space availability, sub-transmission connection, connections to the distribution system and opinion of cost will all have differences. A cost vs benefit comparison with a list of advantages/disadvantages will provided for each. This task allows for each of these items to be scaled or weighted and a total of all criteria can be used to assist with determining the optimum location. Other non-economic factors like improved reliability, safety and ease of operation will also be reviewed to ensure optimum location is justified.

Task 7 – Report Findings: This task would include a follow up meeting with city staff to review the conclusions and recommendations of the analysis. After completion of the follow up meeting, a technical memorandum would be prepared in a summary format suitable for use by the City in making future capital improvement decisions. If desired, a presentation to the Council would be prepared in conjunction with a regularly scheduled meeting.

Estimated Schedule:
The following schedule is proposed for this Feasibility Study, subject to approval with City Council.

August 2020 - City provide data and maps required to complete study.

August 2020 - JEO to provide a preliminary meeting to discuss options, gain more insight and determine site options.

September 2020 - Compile data, verify maps, complete onsite investigation to verify maps, review optional locations and meet with utility personnel. Complete site plan development, one-lines, opinion of cost and determine optimum location.

September 2020 – Review results of preliminary study with City.

October 1, 2020 - Final report completed and available to present to City Council, if necessary.

Proposed Fee:
The cost to provide the above-mentioned services would be a lump sum fee of $15,000. This fee includes JEO's billable time and overhead expenses including telephone calls, copying, postage, travel and meals that are included in our hourly rates and fees. Any additional services beyond the Scope of Service will be provided on a billable time basis in accordance with our standard Hourly Rate Schedule, with prior approval only.

Exclusions:
Development of computer simulated load flow analysis results for each option is not included. After the study is complete, if it is determined that voltage drop issues could be justified, we can confirm results of the final desired option, if necessary.

JEO is pleased to be able to assist you with this Feasibility Study, as this will help provide the planning necessary to establish an improved infrastructure of your community, for the future. If the above Project Description and Scope of Services meet with your approval, please return one signed copy of this letter to our Norfolk Office and retain the original for your records. I look forward to working with you.

If you have any further questions or comments, please do not hesitate to call.

Respectfully submitted,

David R. Peterson, PE
Sr. Electrical Engineer

DRP:skw
Enclosure

PROPOSAL ACCEPTED:

By_____

Title_____

Date_____

RESOLUTION NO. 2020-01

A RESOLUTION OF THE CITY OF CRETE, NEBRASKA RESTRICTING PARKING ON THE WEST SIDE OF FOREST AVENUE BETWEEN THIRTEENTH AND FIFTEENTH STREETS.

WHEREAS, Forest Avenue is an older, narrow street constructed according to obsolete street construction standards, and

WHEREAS, the location of the new City Library at Fifteenth Street and Forest Avenue will create traffic congestion and pedestrian safety issues along Forest Avenue between Thirteenth and Fifteenth Streets, and

WHEREAS, parking is currently prohibited on the east side of Forest Avenue between Thirteenth and Fifteenth Streets, and

WHEREAS, the City of Crete has determined it is in the public's best interests to restrict parking on the west side of Forest Avenue between Thirteenth and Fifteenth Streets.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF CRETE, NEBRASKA:

Section 1. That parking be prohibited on the west side of Forest Avenue from the intersection of Thirteenth Street and Forest Avenue to the intersection of Fifteenth Street and Forest Avenue.

PASSED AND ADOPTED this 18th day of August 2020.

_____
Mayor

ATTEST:

_____
City Clerk