



# City of Grand Island

Tuesday, April 24, 2012

Council Session

## Item G12

**#2012-111 - Approving Amendment No. 1 to the Agreement for Professional Engineering Services entitled “Wastewater Treatment Plant and Collection System Rehabilitation” with Black & Veatch**

Staff Contact: John Collins, Public Works Director

# Council Agenda Memo

**From:** Terry Brown, Manager of Engineering Services

**Meeting:** April 24, 2012

**Subject:** Approving Amendment No. 1 to the Agreement for Professional Engineering Services entitled “Wastewater Treatment Plant and Collection System Rehabilitation” with Black & Veatch

**Item #'s:** G-12

**Presenter(s):** John Collins, Public Works Director

## Background

On October 4, 2011 City Staff, along with the engineering firm Black & Veatch of Kansas City, Missouri, presented the background on the need of the rehabilitation and the contractual process for this project.

City Council approved the initial agreement with Black & Veatch on October 11, 2011 for project management, collection system master planning and conceptual designs for the Northeast Interceptor sewer, Collection System rehabilitation and Wastewater Treatment rehabilitation.

## Discussion

A significant effort has been accomplished with the initial agreement. Amendment No. 1 to this agreement is necessary to continue design effort to final design and bidding on all rehabilitation projects listed in the capital improvements plan and rate study. The attached table and agreement outline the estimated hours per task and not to exceed fee.

## Alternatives

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Move to approve
2. Refer the issue to a Committee
3. Postpone the issue to future date
4. Take no action on the issue

### **Recommendation**

City Administration recommends that the Council approve the Amendment No. 1 to the original agreement with Black & Veatch of Kansas City, Missouri and pass a Resolution authorizing the Mayor to sign the amendment.

### **Sample Motion**

Move to approve the resolution.

**Grand Island WWTP & Collection System Rehabilitation  
Engineering Services Contract Amendment 1  
Summary  
April 18, 2012**

	TOTAL HOURS	TOTAL COST
<b>North Interceptor</b>		
<b>Phase 1A - Seedling Mile Road to WWTP</b>		
Preliminary Design Phase 1A North Int-Seedling Mile Rd to WWTP	1068	\$143,577
90% Contract Documents Phase 1A North Int-Seedling Mile Rd to WWTP	188	\$32,825
Final Contract Documents Phase 1A North Int-Seedling Mile Rd to WWTP	156	\$22,736
Bidding Services Phase 1A North Int-Seedling Mile Rd to WWTP	76	\$12,802
<b>Subtotal Phase 1A</b>	<b>1,488</b>	<b>\$211,940</b>
<b>Phase 1B - 7th Street to Seedling Mile Road</b>		
Preliminary Design Phase 1B North Int-7th St to Seedling Mile Rd	720	\$109,010
90% Contract Documents Phase 1B North Int-7th St to Seedling Mile Rd	220	\$39,145
Final Contract Documents Phase 1B North Int-7th St to Seedling Mile Rd	180	\$26,486
Bidding Services Phase 1B North Int-7th St to Seedling Mile Rd	72	\$12,087
<b>Subtotal Phase 1B</b>	<b>1,192</b>	<b>\$186,728</b>
<b>Collection System Rehabilitation (LS #7, 4th-5th/Eddy-Vine, West &amp; South Interceptor)</b>		
<b>Lift Station 7 Rehabilitation</b>		
90% Contract Documents Collection System Rehab - LS #7	288	\$35,453
Final Contract Documents Collection System Rehab - LS #7	120	\$14,328
Bidding Phase Services Collection System Rehab - LS #7	168	\$8,025
<b>Subtotal Lift Station 7 Rehabilitation</b>	<b>576</b>	<b>\$57,806</b>
<b>4th-5th/ Eddy -Vine Sewer Rehabilitation</b>		
90% Contract Documents Collection System Rehab - 4th-5th/Eddy-Vine	406	\$40,509
Final Contract Documents Collection System Rehab - 4th-5th/Eddy-Vine St	144	\$17,380
Bidding Phase Services Collection System Rehab - 4th-5th/Eddy-Vine St	140	\$8,014
<b>Subtotal 4th-5th/Eddy-Vine Sewer Rehabilitation</b>	<b>690</b>	<b>\$65,903</b>
<b>West &amp; South Interceptor Rehabilitation</b>		
90% Contract Documents Collection System Rehab - West & South Interceptor Rehab	206	\$25,858
Final Contract Documents Collection System Rehab - West & South Interceptor Rehab	222	\$15,546
Bidding Phase Services Collection System Rehab - West & South Interceptor Rehab	60	\$6,843
<b>Subtotal West &amp; South Interceptor Rehabilitation</b>	<b>488</b>	<b>\$48,247</b>
<b>WWTP Rehabilitation</b>		
30% Contract Document Development - WWTP Improvements	2623	\$335,674
60% Contract Document Development - WWTP Improvements	3168	\$399,817
90% Contract Document Development - WWTP Improvements	2978	\$379,170
Final Contract Documents - WWTP Improvements	1481	\$179,260
Bid Phase Services - WWTP Improvements	323	\$45,530
<b>Subtotal WWTP Rehabilitation</b>	<b>10,573</b>	<b>\$1,339,451</b>
<b>Total, Hours</b>	<b>15,007</b>	
<b>Total, Billings</b>		<b>\$1,910,075</b>

**AMENDMENT NO. 1  
TO AGREEMENT BETWEEN  
CITY OF GRAND ISLAND  
AND  
BLACK & VEATCH CORPORATION  
FOR PROFESSIONAL SERVICES  
FOR  
Consulting Engineering Services for the WWTP and Collection System Rehabilitation**

THIS IS AN AMENDMENT made as of \_\_\_\_\_, 2012 to the agreement between City of Grand Island (OWNER) and Black & Veatch Corporation (ENGINEER) dated October 17, 2011, and entitled Consulting Engineering Services for the WWTP and Collection System Rehabilitation. OWNER and ENGINEER agree to amend such Agreement as follows:

**ARTICLE 4 – COMPENSATION**

*4.1* The total amount of payments for services and Reimbursable Expenses in accordance with Attachment B-1, Compensation shall be changed from \$1,121,160 (per Council Resolution 2011-307 dated October 11, 2011) to \$3,031,235, representing an increase of \$1,910,075.

**ARTICLE 3 – SERVICES TO BE PERFORMED BY ENGINEER**

The scope of services for this amendment includes the following services:

1. **North Interceptor (7<sup>th</sup> Street to WWTP)** – Preliminary Design, Final Design, and Bidding Phase Services.
2. **Collection System Rehabilitation** – Final Design and Bidding Phase Services for the West and South Interceptors, 4<sup>th</sup> to 5<sup>th</sup> Street/ Eddy to Vine Street, and Lift Station 7
3. **WWTP Rehabilitation** – Final Design and Bidding Phase Services

The Scope of Services as described in Attachment A – Scope of Services shall be amended to include the following:

**Task 3.1 – Preliminary Design – North Interceptor (7<sup>th</sup> Street to WWTP)**

**General**

The scope of services for this amendment includes engineering services in connection with preliminary design of the North Interceptor Sewer (7<sup>th</sup> Street to WWTP) as described in Technical Memorandum No. 4 dated February, 2012. As outlined in these documents, the scope of services is based on the following additions, modifications, and/or changes to the North Interceptor:

Phase 1A – Seedling Mile Road to WWTP

1. Replacement of the existing 36-inch diameter concrete pipe. The existing pipe between Seedling Mile Road and the WWTP will be abandoned.

2. Design of approximately 3700 feet of 54-inch diameter interceptor sewer to increase capacity and condition of the sewer.
3. Removal and replacement of an existing section of interceptor along Seedling Mile Road between Museum Drive and Villa Mar Dee Avenue.
4. Design of a 670 foot service lateral south of Seedling Mile Road to connect to the south end of Villa Mar Dee Avenue.

Phase 1B– 7<sup>th</sup> Street to Seedling Mile Road

1. Replacement of the existing 30-inch diameter concrete sewer pipe. The existing pipe will be abandoned.
2. Design of approximately 4500 feet of 54-inch diameter interceptor sewer from 7<sup>th</sup> Street and Geddes Road to Seedling Mile Road and Museum Drive.
3. Design of the interceptor sewer for one railroad crossing and a Highway 30 crossing.

It is assumed for purposes of this scope of services that no contaminated soils or groundwater will be encountered. It is assumed that groundwater will be encountered and that groundwater mitigation will be addressed in the design.

**Task 3.1.1 – 60% Contract Design Development – Phase 1A**

**Task 3.1.2 - 60% Contract Design Development – Phase 1B**

Objective: Prepare 60% contract documents for the North Interceptor (7<sup>th</sup> Street to WWTP) for Phase 1A- Seedling Mile Road to WWTP and Phase 1B – 7<sup>th</sup> Street to Seedling Mile Road.

Subtasks:

1. Conduct Preliminary Design Evaluations. Preliminary design evaluations will be prepared to establish the final design pipeline alignment, verify existing utility information, identify permitting requirements, review constructability, verify surface features, identify traffic and public impacts, verify connection requirements to existing sewers, determine operational needs, and establish final easement needs. Potholing may be required to verify location of buried utilities. It is assumed that the CITY will provide equipment and crews for any needed field potholing activities. The ENGINEER will verify survey locations and depths of potholed utilities.
2. Conduct Route Survey:
  - a. North Interceptor Sewer – Phase 1A: Provide necessary field design surveys for the preparation of construction drawings and specifications. Surveys will determine site topography within 1 foot contours, pertinent utility locations within limits of new facilities using survey data of visible above-ground features and professional judgment, adjacent existing plant structures, buildings, and above grade facilities. The survey format shall follow the CITY’s existing facility coordinate and elevation datum system using three (3) established control points. Up to six (6) legal descriptions (Phase 1A) and one

(1) legal description (Phase 1B) will be prepared for easement acquisition based on a 20 feet wide permanent easement and 100 feet wide temporary easement.

3. Conduct Geotechnical Services for North Interceptor Sewer – Phase 1A: Provide Engineering services including exploratory work, laboratory and field testing, and professional guidance in tests to be made at test locations based on preliminary drawings and designs and including professional interpretations of exploratory and test data. The services will include:
  - a. Initial geotechnical exploratory work, such as soil borings, penetration tests, soundings, subsurface explorations, laboratory tests of soils, rock formations, and other geophysical phenomena which may be required to provide information for design, and other field and laboratory tests and analyses which are required to provide design information.
  - b. An initial geotechnical report interpreting the data on the exploratory work and testing and setting out the site conditions that can be anticipated from this initial exploratory work.
4. Conduct Initial Site Assessment (ISA). As part of the due diligence for the Grand Island Nebraska Northeast Interceptor study, ENGINEER will perform an environmental review to identify potential or suspect contamination related to releases of petroleum products or hazardous substances. The review would include a search of the “standard environmental record sources” covering search distances and databases as defined in ASTM 1527-05. The review would also include a site reconnaissance to inspect for obvious indicators of existing or potential releases of petroleum products or hazardous substances. The site reconnaissance will be limited to inspection from public right-of-ways as no landowner coordination is proposed at this time. The deliverable for this review would be a letter report summarizing the activities performed, findings, potential impacts to the project, and recommendations for further investigation/assessment as necessary.
5. Prepare Final Design Memorandum. A final design memorandum will be prepared summarizing the findings of the design evaluations, ISA, and the recommended final design criteria.
6. Prepare 60% Contract Documents. Preliminary plan and profile drawings will be prepared showing pipeline depth, connections, and manhole locations. A specification outline will be prepared.
7. Prepare 60% Estimate of Probable Construction Cost. Prepare 60% opinion of probable construction cost based on documents. ENGINEER shall use past project experience, equipment manufacturer’s quotes, and internal cost information to develop opinion of cost.
8. Quality Assurance/Quality Control Review. ENGINEER shall conduct an internal quality assurance/quality control review of the 60% contract documents.
9. Submit 60% Contract Documents. ENGINEER shall submit eight (8) copies of the 60% Design Contract Documents to the CITY for review.
10. Conduct 60% Contract Documents Review Workshop. ENGINEER shall submit eight (8) copies of the 60% Design Contract Documents to the CITY for review. Attend one (1) half day workshop in Grand Island to review the documents with CITY Staff. All preliminary plan sets

will be on 11-inch by 17-inch size paper at half scale. Engineer shall provide an updated opinion of probable construction costs at the workshop.

### **Task 3.2 – Final Design – North Interceptor (7<sup>th</sup> Street to WWTP)**

#### **General**

The scope of services for this amendment includes engineering services in connection with detailed design and bidding of the Phase 1A and Phase 1B North Interceptor Sewer (7<sup>th</sup> Street to WWTP). As outlined in these documents, the scope of services is based on the following additions, modifications, and/or changes to the North Interceptor:

- Phase 1A – Seedling Mile Road to WWTP
- Phase 1B – 7<sup>th</sup> Street to Seedling Mile Road

#### **Task 3.2.1 – 90% Contract Document Development**

##### **Task 3.2.1.1 – 90% Contract Documents Development – Phase 1A**

##### **Task 3.2.1.2 – 90% Contract Document Development – Phase 1B**

**Objective:** Prepare 90% contract documents for the construction of the improvements identified herein.

#### **Subtasks:**

1. Contract Plans and Specifications.
  - a. Produce project drawings that shall include, but not limited to: Phase 1A and 1B.
  - b. 1) Title Sheet, 2) Site Plans (if applicable), 3) Legends and Symbols Lists, 4) Black & Veatch Standard Detail Sheets, and 5) Construction Drawings 6) Plan and Profile Sheets as needed. A total of approximately 8 drawings are anticipated in the final set of drawings for Phase 1A and 8 drawings are anticipated in the final set of drawings for Phase 1B. It is anticipated that all drawings will be submitted for review with the 90% review documents. Plans will be prepared using B&V CAD standards.
  - c. Produce complete draft contract specifications document including: 1) CITY standard “front-end” contract documents which include Table of Contents, Invitation to Bid, Instructions to Bidders, Bid Forms, Bond Forms, Certificate of Compliance with Fair Labor Standards, List of Subcontractors, Questionnaires, the Agreement, Nebraska Performance Bond, Nebraska Payment Bond, Insurance Certificates, General Conditions, Supplementary Conditions, and Exhibit A that lists the duties, responsibilities and limitations of the authority of the resident project representative, 2) CITY’s forms, 3) Black & Veatch Division 1 specifications, and 4) Black & Veatch Technical Specifications.
2. Quality Assurance/Quality Control Review. ENGINEER shall conduct an internal quality assurance/quality control review of the 90% contract documents.
3. 90% Design Development Review Workshop. ENGINEER shall submit eight (8) copies of the 90% Design Contract Documents to the CITY for review. Attend one (1) half day workshop in Grand Island to review the documents with CITY Staff. All preliminary plan sets will be on 11-inch by 17-inch size paper at half scale. Engineer shall provide an updated opinion of probable construction costs at the workshop.

#### **Task 3.2.2 – Final Contract Documents**



**Task 3.2.2.1 – Final Contract Documents Phase 1A**

**Task 3.2.2.2 – Final Contract Documents Phase 1B**

**Objective:** Finalize contract documents for the construction of the PROJECT by a single General Contractor bidding on a unit price basis for one Phase 1A bid package and one Phase 1B bid package.

**Subtasks:**

1. Contract Plans and Specifications. Integrate CITY and internal quality control comments into contract documents to finalize bidding documents. Submit four (4) sets of documents including specifications, half size, and full sized plans, two (2) electronic copies in PDF format, and two (2) electronic copies of the drawings in AutoCAD 2008 format.
2. Prepare Final Opinion of Probable Construction Cost. Prepare final opinion of probable construction cost based on bidding documents. ENGINEER shall use past project experience, equipment manufacturer's quotes, and internal cost information to develop opinion of cost.
3. The ENGINEER shall assist in obtaining approval from the governmental authorities having jurisdiction over the design criteria of the PROJECT, consisting of any required correspondence and the attendance of one (1) meeting, if required, with the appropriate governmental agencies. ENGINEER shall prepare sealed documents for review by NDEQ. Incorporate comments as required in the final construction documents.

**Task 3.3 – Bidding Phase Services – North Interceptor (7<sup>th</sup> Street to WWTP)**

**Task 3.3.1 – Bidding Phase Services Phase 1A**

**Task 3.3.2 – Bidding Phase Services Phase 1B**

**Objective:** Provide bidding phase support services to the CITY during advertisement of the North Interceptor (7<sup>th</sup> Street to WWTP) project.

**Subtasks:**

1. Distribute Documents. Assist the CITY in establishing a bid opening date and distribute project drawings and contract specifications in accordance with CITY's procedures to all interested parties and clearinghouses. Document distribution may be on a third-party plan distribution website as approved by CITY.
2. Pre-Bid Conference. Assist with, at a date and time selected and a place provided by CITY, a pre-bid conference to:
  - a. Instruct prospective bidders and suppliers as to the types of information required by the Contract Documents and the format in which bids should be presented.
  - b. Review special project requirements and Contract Documents in general.
  - c. Receive requests for interpretations that will be issued to plan holders.
  - d. CITY personnel will prepare minutes of conference and issue to plan holders.
3. Answer Bidders Questions. Interpret questions from prospective bidders regarding the construction Contract Documents.

4. Prepare and Issue Addenda. Prepare addenda to the construction Contract Documents when required. CITY will issue any addenda to plan holders.
5. Evaluate Bids and Recommend Award.
  - a. Assist the CITY in reviewing the bids for completeness and accuracy.
  - b. Examine the questionnaire to identify any supplier whose equipment or materials may not conform to the construction Contract Documents. The list of subcontractors will also be reviewed.
  - c. Prepare and distribute formal bid tabulation sheets, evaluate bids, and make written recommendations to CITY concerning qualifications of the apparent low bidder.
  - d. Assistance with bid protests and rebidding will be considered a supplemental service.
  - e. Prepare and distribute conforming copies of the construction Contract Documents. These services will include transmitting the construction Contract Documents to CITY for signature and distribution.

**Task 3.4 – Construction Phase Services – North Interceptor (7<sup>th</sup> Street to WWTP) (To be included in a future amendment)**

**Task 3.5 – Resident Inspection Services During Construction – North Interceptor (7<sup>th</sup> Street to WWTP) (To be included in a future amendment)**

**Task 4.2 – Final Design – Lift Station #7, 4th to 5th Street / Eddy to Vine Street Rehabilitation, and South and West Sewer Interceptor Rehabilitation**

**General**

The scope of services for this amendment includes engineering services in connection with detailed design and bidding of the collection system improvements as described in the final technical memorandums (TM) #5, #6, #7, and #7B dated March 2012 and the draft Design Memorandum currently being prepared. As outlined in these documents, the scope of services is based on the following additions, modifications, and/or changes to the collection system:

Lift Station #7

1. Remove existing masonry building and replace with a new masonry building above the existing lift station dry pit. The existing mechanical and electrical system will also be removed and replaced.
2. Remove existing pumps and piping from the dry pit and install new dry pit submersible pumps with variable frequency drives (VFD) and new piping. A mag flow meter will also be added to the effluent piping.
3. The site piping will consist of valving with a valve manhole and piping to connect the new effluent force main to the existing 8-inch, 6-inch and 4-inch force mains. A new bypass suction and bypass discharge line will also be added to the site piping.

4<sup>th</sup> Street to 5<sup>th</sup> Street / Eddy Street to Vine Street Sewer Rehabilitation

1. A new interceptor sewer line will be added along the south side of 5<sup>th</sup> Street from Eddy Street to the alley between 4<sup>th</sup> Street and 5<sup>th</sup> Street along Vine Street. The sewer line size will be between an 18-inch and 24inch size line. The exact size will be determined during final design using the results of the sewer system modeling.
2. The existing 15-inch vitrified clay sewer line that is located in the alley between 4<sup>th</sup> Street and 5<sup>th</sup> Street from Eddy Street to Vine Street will be rehabilitated with a combination of spot repairs and the installation of a cured in place pipe (CIPP) liner.

#### South and West Sewer Interceptor Rehabilitation

1. The sewer pipe segments that are rated as “F” and “D” and several of the “C” segments as part of the sewer inspection addressed in TM’s #5 and #6 will be rehabilitated by a combination of spot repairs and the installation of a cured in place pipe (CIPP) liner.

#### **Task 4.2.1 – 90% Contract Document Development – Lift Station #7, 4th to 5th Street / Eddy to Vine Street Rehabilitation, and South and West Sewer Interceptor Rehabilitation**

##### **Task 4.2.1.1 – Lift Station #7**

##### **Task 4.3.1.2 – 4<sup>th</sup> to 5<sup>th</sup> Street/Eddy to Vine Street Rehabilitation**

##### **Task 4.3.1.3 – South and West Interceptor Rehabilitation**

**Objective:** Prepare 90% contract documents for the construction of the improvements identified herein.

#### **Subtasks:**

1. Contract Plans and Specifications.
  - a. Produce project drawings that shall include, but not limited to: Lift Station #7
    - 1) Title Sheet, 2) Site Plans (if applicable), 3) Legends and Symbols Lists, 4) Black & Veatch Standard Detail Sheets, and 5) Construction Drawings 6) Plan and Profile Sheets as needed. A total of approximately 15 drawings are anticipated in the final set of drawings for Lift Station #17, 18 drawings are anticipated in the final set of drawings for 4<sup>th</sup> to 5<sup>th</sup> Street / Eddy to Vine Street Rehabilitation, and 13 drawings are anticipated in the final set of drawings for South and West Sewer Interceptor Rehabilitation. It is anticipated that all drawings will be submitted for review with the 90% review documents. Plans will be prepared using B&V CAD standards.
  - b. Produce complete draft contract specifications document including: 1) CITY standard “front-end” contract documents which include Table of Contents, Invitation to Bid, Instructions to Bidders, Bid Forms, Bond Forms, Certificate of Compliance with Fair Labor Standards, List of Subcontractors, Questionnaires, the Agreement, Nebraska Performance Bond, Nebraska Payment Bond, Insurance Certificates, General Conditions, Supplementary Conditions, and Exhibit A that lists the duties, responsibilities and limitations of the authority of the resident project representative, 2) CITY’s forms, 3) Black & Veatch Division 1 specifications, and 4) Black & Veatch Technical Specifications.

2. Quality Assurance/Quality Control Review. ENGINEER shall conduct an internal quality assurance/quality control review of the 90% contract documents.
3. 90% Design Development Review Workshop. ENGINEER shall submit eight (8) copies of the 90% Design Contract Documents to the CITY for review. Attend one (1) half day workshop in Grand Island to review the documents with CITY Staff. All preliminary plan sets will be on 11-inch by 17-inch size paper at half scale. ENGINEER shall provide an updated opinion of probable construction costs at the workshop.

**Task 4.2.2 – Final Contract Documents – Lift Station #7, 4th to 5th Street / Eddy to Vine Street Rehabilitation, and South and West Sewer Interceptor Rehabilitation**

**Task 4.2.2.1 – Lift Station #7**

**Task 4.2.2.2 – 4<sup>th</sup> to 5<sup>th</sup> Street/Eddy to Vine Street Rehabilitation**

**Task 4.2.2.3 – South and West Sewer Interceptor Rehabilitation**

**Objective:** Finalize contract documents for the construction of the PROJECT by a single General Contractor bidding on a lump sum basis for Lift Station #7 and a unit price basis for 4<sup>th</sup> to 5<sup>th</sup> Street / Eddy to Vine Street Rehabilitation and South and West Sewer Interceptor Rehabilitation.

**Subtasks:**

1. Contract Plans and Specifications. Integrate CITY and internal quality control comments into contract documents to finalize bidding documents. Submit four (4) sets of documents including specifications, half size, and full sized plans, two (2) electronic copies in PDF format, and two (2) electronic copies of the drawings in AutoCAD 2008 format.
2. Prepare Final Opinion of Probable Construction Cost. Prepare final opinion of probable construction cost based on bidding documents. ENGINEER shall use past project experience, equipment manufacturer's quotes, and internal cost information to develop opinion of cost.
3. The ENGINEER shall assist in obtaining approval from the governmental authorities having jurisdiction over the design criteria of the PROJECT, consisting of any required correspondence and the attendance of one (1) meeting, if required, with the appropriate governmental agencies. ENGINEER shall prepare sealed documents for review by NDEQ. Incorporate comments as required in the final construction documents.

**Task 4.3 – Bidding Phase Services – Lift Station #7, 4th to 5th Street / Eddy to Vine Street Rehabilitation, and South and West Sewer Interceptor Rehabilitation**

**Task 4.3.1 – Lift Station #7**

**Task 4.3.2 – 4<sup>th</sup> to 5<sup>th</sup> Street/Eddy to Vine Street Rehabilitation**

**Task 4.3.3 – South and West Sewer Interceptor Rehabilitation**

**Objective:** Provide bidding phase support services to the CITY during advertisement of the three (3) separate projects.

**Subtasks:**

1. Distribute Documents. Assist the CITY in establishing a bid opening date and distribute project drawings and contract specifications in accordance with CITY's procedures to all interested parties and clearinghouses. Document distribution may be on a third-party plan distribution website as approved by CITY.
2. Pre-Bid Conference. Assist with, at a date and time selected and a place provided by CITY, a pre-bid conference to:
  - a. Instruct prospective bidders and suppliers as to the types of information required by the Contract Documents and the format in which bids should be presented.
  - b. Review special project requirements and Contract Documents in general.
  - c. Receive requests for interpretations that will be issued to plan holders.
  - d. CITY personnel will prepare minutes of conference and issue to plan holders.

A pre-bid conference will not be held for the South and West Sewer Interceptor Rehabilitation project.
3. Answer Bidders Questions. Interpret questions from prospective bidders regarding the construction Contract Documents.
4. Prepare and Issue Addenda. Prepare addenda to the construction Contract Documents when required. CITY will issue any addenda to plan holders.
5. Evaluate Bids and Recommend Award.
  - a. Assist the CITY in reviewing the bids for completeness and accuracy.
  - b. Examine the questionnaire to identify any supplier whose equipment or materials may not conform to the construction Contract Documents. The list of subcontractors will also be reviewed.
  - c. Prepare and distribute formal bid tabulation sheets, evaluate bids, and make written recommendations to CITY concerning qualifications of the apparent low bidder.
  - d. Assistance with bid protests and rebidding will be considered a supplemental service.
  - e. Prepare and distribute conforming copies of the construction Contract Documents. These services will include transmitting the construction Contract Documents to CITY for signature and distribution.

**Task 4.4 – Construction Phase Services - Lift Station #7, 4th to 5th Street / Eddy to Vine Street Rehabilitation, and South and West Sewer Interceptor Rehabilitation (To be included in a future amendment)**

**Task 4.5 – Resident Inspection Services During Construction - Lift Station #7, 4th to 5th Street / Eddy to Vine Street Rehabilitation, and South and West Sewer Interceptor Rehabilitation (To be included in a future amendment)**

**Task 5.2 – Final Design - WWTP Improvements**

**General**

The scope of services for this amendment includes engineering services in connection with detailed design and bidding of the headworks improvements as described in the final technical memorandum (TM) #9 dated March 2012 and the draft Design Memorandum currently being prepared. As outlined in these documents, the scope of services is based on the following additions, modifications, and/or changes at the WWTP:

1. A new 44 mgd raw sewage pumping station facility with two fully-redundant reciprocating rake (climber-type) screens and screenings washer/compactors. Two 7 mgd and four 10 mgd submersible pumps are planned for a total capacity of 54 mgd. The pumping station would be designed to allow for replacement of the 7 mgd pumps with 10 mgd pumps for a total future capacity of 60 mgd. The pumping station would be located west of the Administration Building to minimize disruption to the existing plant operations and facilitate construction of new or relocated interceptors. One 36-inch forcemain for each set of three pumps is planned to allow for redundant forcemains. The wetwell would incorporate a divider wall to isolate one half of the wetwell for maintenance and a gate to allow operation as a single wetwell.
2. New masonry building would house the screens and electrical equipment for the new pumping station facility. A metal maintenance shelter would be considered above the wetwell.
3. New septage receiving area located adjacent to the new pumping station.
4. Rehabilitation of the existing raw sewage pumping station for plant drain and filtrate water only. The wetwell would be repaired and lined for corrosion protection while the influent channels would be abandoned and isolated from the wetwell. Two 500 gpm dry-pit submersible pumps are planned for conveying the plant drain and filtrate water to the new raw sewage pumping station.
5. Replacement of the existing Parshall Flume with a new meter vault to house magnetic flow meters from the two 36-inch force mains from the new raw sewage pumping station.
6. Replacement of the existing aerated grit basins with two new grit basins, each to be sized for 30 mgd of peak flow, which would provide the best low flow performance while providing full redundancy at peak daily flows.
7. Adjacent to the grit basins, a masonry building would house the grit pumps, grit dewatering (separation and classification equipment), drive-through container room, electrical room, and mechanical room.
8. New flow distribution structure to properly distribute effluent from the new grit basins to the existing Primary Clarifier No. 1, existing Primary Clarifier No. 2, future Primary Clarifier No. 3, and a bypass to the Mixed Liquor Pump Station/Aeration Basins.
9. New odor control system for the new screening facility, pumping station wetwell, and grit facility dewatering and container rooms.
10. Standby generator.

11. Site work, piping, electrical, plant control system, and utility improvements to support the new facilities.

### **Task 5.2.1 – 30% Contract Document Development**

**Objective:** Prepare 30% complete contract documents for the construction of the improvements identified herein.

**Subtasks:**

1. Contract Plans.
  - a. Produce project drawings that shall include, but not limited to: 1) Title Sheet, 2) Site Plans, 3) Legends and Symbols Lists, 4) Standard Detail Sheets, and 5) Construction Drawings as needed. A total of approximately 184 drawings are anticipated in the final set of drawings. Approximately 53 drawings will be submitted for review with the 30% review documents. A preliminary list of drawings and specifications is shown in Appendix A.
2. Quality Assurance/Quality Control Review. ENGINEER shall conduct an internal quality assurance/quality control review of the 30% contract documents.
3. 30% Design Development Review Workshop. ENGINEER shall submit ten (10) copies of the 30% Design Contract Documents to the CITY for review. Attend a one (1) two-day workshop in Grand Island to review the documents with CITY Staff. All preliminary plan sets will be on 11-inch by 17-inch size paper at half scale. ENGINEER shall provide an updated opinion of probable construction costs at the workshop.

Anticipated elements in the 30% Design Development Review Stage are as follows:

- Updated Process and Instrumentation Diagrams (P&IDs)
- Updated power distribution functional diagram
- Revised preliminary site arrangement drawings
- Major building and structure sections (CAD) showing equipment, structure, and piping
- Equipment Control Descriptions and revised Control System Block Diagram
- Building elevations
- Updated Opinion of Probable Cost and summary of Potential Scope Adjustments

### **Task 5.2.2 – 60% Contract Document Development**

**Objective:** Prepare 60% complete contract documents for the construction of the improvements identified herein.

**Subtasks:**

1. Contract Plans and Specifications.
  - a. Produce project drawings that shall include, but not limited to: 1) Title Sheet, 2) Site Plans, 3) Legends and Symbols Lists, 4) Standard Detail Sheets, and 5) Construction Drawings as needed. A total of approximately 184 drawings are anticipated in the final set of drawings. Approximately 147 drawings will be submitted for review with the 60% review documents.

- b. Produce contract specifications including: 1) CITY standard “front-end” contract documents which include Table of Contents, Invitation to Bid, Instructions to Bidders, Bid Forms, Bond Forms, Certificate of Compliance with Fair Labor Standards, List of Subcontractors, Questionnaires, the Agreement, Nebraska Performance Bond, Nebraska Payment Bond, Insurance Certificates, General Conditions, Supplementary Conditions, and Exhibit A that lists the duties, responsibilities and limitations of the authority of the resident project representative, 2) CITY’s forms, 3) Division 1 specifications, and 4) Technical Specifications. Specifications developed for the 60% documents will include major equipment specifications, front-end documents, and the project requirements specification, including a draft sequence of construction. Submit front-end documents to CITY’s legal department for review and recommendations. A list of specifications is shown in Appendix A.
2. Quality Assurance/Quality Control Review. ENGINEER shall conduct an internal quality assurance/quality control review of the 60% contract documents.
3. 60% Design Development Review Workshop. ENGINEER shall submit ten (10) copies of the 60% Design Contract Documents to the CITY for review. Attend a one (1) two-day workshop in Kansas City to review the documents with CITY Staff. All preliminary plan sets will be on 11-inch by 17-inch size paper at half scale. ENGINEER shall provide an updated opinion of probable construction costs at the workshop.

Anticipated elements in the 60% Design Development Review Stage are as follows:

- Updated Process and Instrumentation Diagrams (P&IDs)
- Remaining P&IDs for other processes or modifications to existing processes.
- Updated power distribution functional diagram
- Revised preliminary site arrangement drawings
- Updated major building and structure sections (CAD) showing equipment, structure, and piping
- Revised Equipment Control Descriptions and revised Control System Block Diagram
- Revised building elevations
- Structural sections
- Civil site/utility drawings
- Plumbing/HVAC plans and schedules
- Draft front-end documents and the project requirements specification
- Major equipment specifications
- Updated Opinion of Probable Cost and summary of Potential Scope Adjustments

### **Task 5.2.3 – 90% Contract Document Development**

**Objective:** Prepare 90% contract documents for the construction of the improvements identified herein.

#### **Subtasks:**

1. Contract Plans and Specifications.
4. Produce project drawings that shall include, but not limited to: 1) Title Sheet, 2) Site Plans, 3) Legends and Symbols Lists, 4) Black & Veatch Standard Detail Sheets, and 5) Construction



Drawings as needed. A total of approximately 184 drawings are anticipated in the final set of drawings. It is anticipated that all drawings will be submitted for review with the 90% review documents. Plans will be prepared using B&V CAD standards.

5. Produce complete draft contract specifications document including: 1) CITY standard “front-end” contract documents which include Table of Contents, Invitation to Bid, Instructions to Bidders, Bid Forms, Bond Forms, Certificate of Compliance with Fair Labor Standards, List of Subcontractors, Questionnaires, the Agreement, Nebraska Performance Bond, Nebraska Payment Bond, Insurance Certificates, General Conditions, Supplementary Conditions, and Exhibit A that lists the duties, responsibilities and limitations of the authority of the resident project representative, 2) CITY’s forms, 3) Black & Veatch Division 1 specifications, and 4) Black & Veatch Technical Specifications.
6. The ENGINEER shall assist in obtaining approval from the governmental authorities having jurisdiction over the design criteria of the PROJECT, consisting of any required correspondence and the attendance of one (1) meeting, if required, with the appropriate governmental agencies. ENGINEER shall prepare sealed documents at 90% level for review by NDEQ. Documents shall be labeled “For Review Only” to differentiate between review drawings and final drawings. Incorporate comments as required in the final construction documents.
2. Quality Assurance/Quality Control Review. ENGINEER shall conduct an internal quality assurance/quality control review of the 90% contract documents.
3. 90% Design Development Review Workshop. ENGINEER shall submit ten (10) copies of the 90% Design Contract Documents to the CITY for review. Attend a one (1) two-day workshop in Grand Island to review the documents with CITY Staff. All preliminary plan sets will be on 11-inch by 17-inch size paper at half scale. ENGINEER shall provide an updated opinion of probable construction costs at the workshop.

Anticipated elements in the 90% Design Development Review stage are as follows:

- Final Process and Instrumentation Diagrams (P&ID)
- Final power distribution functional diagram
- Final site arrangement drawings
- Major building and structure sections (CAD) showing equipment, structure, and piping
- Equipment Control Descriptions and final Control System Block Diagram
- Building elevations and architectural renderings
- Electrical duct bank layout and power/lighting plans
- Final civil site/utility drawings
- Final plumbing/HVAC plans and schedules
- Commodity specifications
- Instrumentation plans
- Instrumentation schedules and details
- Mechanical, electrical, and instrumentation specifications
- Electrical schematics and one-lines
- Plumbing schedules, plans, and riser diagrams
- Updated front-end documents, including all Division 1 specifications
- Revised major equipment specifications
- Remaining drawings and specifications
- Updated Opinion of Probable Cost and summary of potential scope adjustments

### **Task 5.2.4 – Final Contract Documents**

**Objective:** Finalize contract documents for the construction of the PROJECT by single General Contractor bidding on a lump sum basis.

#### **Subtasks:**

1. Contract Plans and Specifications. Integrate CITY, State, and internal quality control comments into contract documents to finalize bidding documents. Submit four (4) sets of documents including specifications, half size, and full sized plans, two (2) electronic copies in PDF format, and two (2) electronic copies of the drawings in AutoCAD 2008 format.
2. Prepare Final Opinion of Probable Construction Cost. Prepare final opinion of probable construction cost based on bidding documents. ENGINEER shall use past project experience, equipment manufacturer's quotes, and internal cost information to develop opinion of cost.

### **Task 5.3 – Bidding Phase Services - WWTP Improvements**

**Objective:** Provide bidding phase support services to the CITY during advertisement of the WWTP Improvements project.

#### **Subtasks:**

1. Distribute Documents. Assist the CITY in establishing a bid opening date and distribute project drawings and contract specifications in accordance with CITY's procedures to all interested parties and clearinghouses. Document distribution may be on a third-party plan distribution website as approved by CITY.
2. Pre-Bid Conference. Assist with, at a date and time selected and a place provided by CITY, a pre-bid conference to:
  - a. Instruct prospective bidders and suppliers as to the types of information required by the Contract Documents and the format in which bids should be presented.
  - b. Review special project requirements and Contract Documents in general.
  - c. Receive requests for interpretations that will be issued to plan holders.
  - d. CITY personnel will prepare minutes of conference and issue to plan holders.
3. Answer Bidders Questions. Interpret questions from prospective bidders regarding the construction Contract Documents.
4. Prepare and Issue Addenda. Prepare addenda to the construction Contract Documents when required. CITY will issue any addenda to plan holders.
5. Evaluate Bids and Recommend Award.
  - a. Assist the CITY in reviewing the bids for completeness and accuracy.

- b. Examine the questionnaire to identify any supplier whose equipment or materials may not conform to the construction Contract Documents. The list of subcontractors will also be reviewed.
- c. Prepare and distribute formal bid tabulation sheets, evaluate bids, and make written recommendations to CITY concerning qualifications of the apparent low bidder.
- d. Assistance with bid protests and rebidding will be considered a supplemental service.
- e. Prepare and distribute conforming copies of the construction Contract Documents. These services will include transmitting the construction Contract Documents to CITY for signature and distribution.

**Task 5.4 – Construction Phase Services - WWTP Improvements (To be included in a future amendment)**

**Task 5.5 – Resident Inspection Services During Construction - WWTP Improvements (To be included in a future amendment)**

All other provisions of the Agreement shall remain the same.

IN WITNESS WHEREOF, the parties hereto have made and executed this Amendment as of the day and year first above written.

OWNER:

ENGINEER:

**CITY OF GRAND ISLAND, NEBRASKA**

**BLACK & VEATCH CORPORATION**

By: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

RESOLUTION 2012-111

WHEREAS, on May 23, 2011 the City of Grand Island solicited Requests for Statement of Qualifications for professional consulting engineering services for the Wastewater Treatment Plant and Collection System Rehabilitation; and

WHEREAS, on October 4, 2011 through a City Council Study Session; City Staff, along with the engineering firm Black & Veatch of Kansas City, Missouri presented the need of the rehabilitation and the contractual process to hire a professional consulting engineer to provide services in Project Management, Collection System Master Planning and Planned Improvements in Northeast Interceptor sewer, and Collection System and Wastewater Treatment Rehabilitation; and

WHEREAS, on October 11, 2011, by Resolution No. 2011-307, City Council approved the agreement with Black & Veatch for such professional services to be performed at actual costs with an amount not to exceed \$1,121,160.00; and

WHEREAS, it has been determined that the initial agreement needs to be amended to allow for the continuation of the design effort to final design and bidding; and

WHEREAS, the negotiated Amendment No. 1 shall be performed at actual costs with a maximum amount of \$1,910,075.00, for a total agreement cost of \$3,031,235.00, and the fee for such professional consulting engineering services is considered fair and reasonable.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that Amendment No. 1 for professional consulting engineering services between the City of Grand Island and Black & Veatch of Kansas City, Missouri is hereby approved.

BE IT FURTHER RESOLVED, that division management, when deemed appropriate may enter into negotiations for amendment to the agreement to provide additional services; and

BE IT FURTHER RESOLVED, that the Mayor is hereby authorized and directed to execute such Amendment No. 1 on behalf of the City of Grand Island.

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Adopted by the City Council of the City of Grand Island, Nebraska, April 24, 2012.

\_\_\_\_\_  
Jay Vavricek, Mayor

Attest:

\_\_\_\_\_  
RaNae Edwards, City Clerk