



1459 Washington St.  
Muscatine, IA 52761-5040  
(563) 263-8933  
Fax (563) 263-2127

Public Works

City Transit  
263-8152

MEMORANDUM

Equipment Maintenance  
Roadway Maintenance  
Collection & Drainage  
Building & Grounds  
Engineering

To: Gregg Mandsager, City Administrator  
CC: Fran Donelson, Secretary  
FROM: Randy Hill  
DATE: January 4, 2010  
RE: Shoemaker-Haaland: Clay Street Bridge Proposal

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**INTRODUCTION:** The following proposal for the Clay Street Bridge Rehabilitation Design from Shoemaker-Haaland is submitted for council's consideration at the January 4, 2010 City Council meeting.

**BACKGROUND:** On September 25, 2009 Shoemaker-Haaland reviewed the bridge on Clay Street crossing Mad Creek. The bridge had recently been milled to remove an asphalt overlay as part of the Clay Street Reconstruction Project. With the asphalt overlay removed, it was apparent that the concrete deck had significant deterioration over nearly 60% of the road surface. When viewed from below, the bridge shows signs of cracking and salt efflorescence indicating the likelihood of full depth deterioration of the deck. Small holes were drilled in the deck to determine the remaining thickness of concrete. It was determined that the original deck was 6" thick and the extensive deterioration left an effective slab thickness of 3 1/2". As a result the bridge has been posted for an 8 ton load limit.

**RECOMMENDATION/RATIONALE:** Public Works Staff recommends entering into a professional services agreement with Shoemaker-Haaland for the rehabilitation design of the Clay Street Bridge. The fee proposed is \$38,300 and includes 12 specific engineering services. A summer 2010 construction project is expected.

If you have any questions, please contact me.

**BACKUP INFORMATION:**

1. Clay Street Bridge Rehabilitation Proposal

"I remember Muscatine for its sunsets. I have never seen any  
on either side of the ocean that equaled them" — Mark Twain



**Shoemaker & Haaland**  
Engineering • Landscape Architecture • Surveying

PUBLIC DOCUMENT  
INDEX No.  
**# 9 1 1 0 5**  
CITY CLERK'S OFFICE  
MUSCATINE, IOWA

December 10, 2009

Mr. Randy Hill  
Mr. John Lutz  
Public Works  
1459 Washington Street  
Muscatine, Iowa 52761-5040

Re: Clay Street Bridge over Mad Creek  
Bridge Rehabilitation

Dear Randy and John:

We are pleased to provide this proposal for rehabilitation design services on the Clay Street Bridge project. Based on review of construction plans prepared by the City Staff in 1957 and site review, we have prepared the following scope of services.

### **Project Background/Description**

A full description of the condition was submitted in a report dated October 15<sup>th</sup> 2009.

### **Scope of Services**

The following are Professional engineering services we have determined for the rehabilitation of the Clay Street bridge:

1. Review State and Federal programs for possible funding of project.
2. Inspect existing conditions and dimensions for abutments, beams, and substructure for rehabilitation as required.
3. Review record documents and verify in field inspections.
4. Contact utility companies with facilities in the project corridor to discuss the status of their facilities, any plans to upgrade and the adequacy of proposed accommodation plans to protect their facilities.

Mr. Randy Hill  
Mr. John Lutz  
December 10, 2009  
Page 2

5. Topographic contour mapping of existing conditions of the underside back walls and beam seats, and utility location mapping and contours for approach area, in AutoCAD electronic format (by Martin & Whitacre).
6. Review existing water line supported on the north side of the bridge with Muscatine Water and Power and possible replacement by owner, coordinated with the project.
7. Check roadway geometry based on AASHTO requirements for road classification.
8. Review AASHTO and Sudas requirements for sidewalks and geometry with existing road.
9. Design and detail slab removal, new bridge deck and sidewalk slab, with details based on Iowa Department of Transportation and AASHTO design methods. Design features of the bridge to include sidewalk on both sides. No aesthetic features are anticipated such as decorative barrier and guardrail system.
10. Preparation of updated Opinion of Construction Cost at the preliminary, check, and final plan stages.
11. Prepare Pollution Prevention Plan drawings and documents. Provide documents to City Staff for preparation of applications and notices required for NPDES Pollution Prevention Plan.
12. Presentation of Construction Documents to City, preparation of Notice of Public Hearing and attendance at Public Hearing.

### **Services Not Included**

Our present scope of service and estimate of fee does not envision the following listed services:

1. Hydraulics review for opening geometry
2. Lighting on the bridge
3. Additional property acquisition or easement surveys, plats and/or assistance in acquisitions
4. Additional IDNR or Army Corps permit applications or related work

Mr. Randy Hill  
Mr. John Lutz  
December 10, 2009  
Page 3

5. Archeological Studies
6. Geotechnical Soils Engineering Report prepared by Terracon Consultants for the proposed project
7. Wetland Studies
8. Environmental Impact Statements or Clearances
9. Construction Phase Services

#### **Time of Performance/Project Schedule**

We propose to complete the engineering services based on a *\*spring letting* as follows:

- |    |                      |            |
|----|----------------------|------------|
| 1. | Preliminary Plans    | Feb 2010   |
| 2. | Check Plan           | Mar 2010   |
| 3. | Final Plan Submittal | April 2010 |
| 4. | Local Bid Letting    | May 2010   |

\* Based on local letting; if IDOT critical path is required, updated schedule will be provided to Owner.

#### **Compensation and Payment**

Based on the preceding scope, we have estimated the hours required to provide the professional services outlined above as follows:

##### For Basic Services

- |    |   |               |
|----|---|---------------|
| 1. | Assessment of existing conditions and design recommendations        | \$ 3,250      |
| 2. | Preliminary and Final Plans and specifications for bidding by owner | \$27,500      |
| 3. | Bid Phase Assistance and Coordination                               | \$750         |
| 4. | 3D Laser Scanning (Item #5 by Martin & Whitacre)                    | <u>\$6000</u> |

	Subtotal:	\$37,500
	Reimbursable Expenses:	<u>800</u>
Basic Services Total:		\$38,300

The above fee includes work associated with report dated October 15, 2009.

Mr. Randy Hill  
Mr. John Lutz  
December 10, 2009  
Page 4

**Terms and Conditions**

We will furnish the proposed services in accordance with our standard Terms and Conditions of service which are attached. If this proposal meets your approval, you may sign one copy in the Owner authorization block below and return to us. Feel free to contact me if you have any questions or clarifications in regard to our understanding of the project scope or engineering services proposed.

Sincerely,

SHOEMAKER & HAALAND PROFESSIONAL ENGINEERS



Robert A. Bang, P.E.

Enclosures (2)

Accepted for the City of Muscatine, Iowa, on this 7<sup>th</sup> day of January 2010.

By: Richard W. Brown, Mayor  
Signature and Title

# Appendix A



**Martin & Whitacre  
Surveyors & Engineers, Inc.**

Gary Whitacre, President  
Matt Krause, Sec/Treas

November 30, 2009

Robert Bang  
Shoemaker & Haaland  
160 Holiday Road  
Coralville, IA 52241

Dear Robert;

Thanks for the opportunity to provide a quote for surveying services and 3D Laser Scanning. We propose to scan the underside of the Clay Street Bridge over Mad Creek as discussed at the meeting in our office. The scans will include sufficient data to identify the interior abutment faces, beam bottoms, beam seats and deck bottom. Additionally, we will collect traditional topographic data of the surrounding area including creek banks, ground elevations around the abutment walls, existing road and sidewalk pavements and utilities as located by a "One Call."

Deliverables will include all scan data with viewer software, a site plan showing all collected data, including bridge bottom elevations extracted from the scans and section views of each abutment with beam seat elevations shown.

Our fee for this work will be \$6,000.00 and can start field work within 1 week of notice to proceed. Please let me know if you have any questions or need additional information.

Sincerely;

MARTIN & WHITACRE SURVEYORS & ENGINEERS, INC.

Matt Krause

MK/jkm

**RECEIVED**  
DEC 2 2009  
**SHOEMAKER & HAALAND**

#ShoemakerClayBridge

1508 Bidwell Road P.O. Box 413 Muscatine, Iowa 52761  
Phone: 563/263-7691 Fax: 563/263-0048  
311 Van Buren Street Wapello, Iowa 52653 319/527-7691

e-mail: [info@martin-whitacre.com](mailto:info@martin-whitacre.com)  
web site: <http://www.martin-whitacre.com>

## Terms and Conditions

**Definition.** The use of the term Engineer includes, Shoemaker & Haaland Professional Engineers, its Engineers, officers, directors, shareholders, employees and agents, designees, or assignees.

**Scope of Service.** The scope of service is included in the attached correspondence. Services not expressly identified are excluded from Engineer's scope of service.

**Standard of Care.** Services performed by Engineer under this Agreement will be with the level of care and skill ordinarily exercised by members of the profession currently practicing in similar conditions, time, and location. No warranty, express or implied, is made or intended for the services under this Agreement.

**Cost Estimates.** Any Estimate of the Construction Cost or other costs prepared by Engineer represents his estimate or opinion as a design professional and is supplied for general guidance of Client. Engineer has no control over cost of labor and material or over competitive bidding or market conditions, and Engineer does not guarantee the accuracy of such estimates or have any liability if contractor bids or actual cost to Client exceeds Engineer's cost estimate.

**Client Information.** Client shall provide all criteria, design parameters, construction standards, and full information as to Client's requirements for the Project including design objectives and constraints, space, capacity and performance requirements, and budgetary limitations. Client shall also provide location information for buried utilities and/or structures, tests of subsurface conditions, and any other pertinent data. Engineer shall be entitled to rely on the accuracy and completeness of all information (electronic or otherwise) provided by Client to Engineer. Accordingly, Client agrees, to the fullest extent permitted by law, to indemnify and hold Engineer and Engineer's officers, directors, shareholders, employees, agents and Engineer's consultant harmless from and against any and all claims, losses, costs or damages of any nature whatsoever for injury or loss arising or allegedly arising from errors, omissions or inaccuracies in documents or other information provided by Client to Engineer.

**Access To Sites, Permits and Approvals.** Unless otherwise agreed, Client will furnish Engineer with right-of-access to the site(s). Engineer will take reasonable precautions to minimize any damage to the property. Some damage may occur as a result of Engineer's access, and the restoration, repair or cost is not part of this agreement or Engineer's responsibility. Unless otherwise agreed, Client will secure all necessary approvals, permits, licenses and consents necessary to the performance of the services hereunder.

**Hidden Conditions.** A condition is hidden if concealed by existing earth, facilities or finishes or if it cannot be visually observed without uncovering the condition. If Engineer has reason to believe that such a condition may exist, Engineer shall notify Client who shall authorize and pay for all costs associated with the investigation, repair or remediation of said condition. Client is responsible for all risks associated with this condition, and Engineer shall not be responsible for the existing condition or any resulting damages to persons or property. Client has disclosed to Engineer all data available to Client concerning known or suspected Hazardous Environmental Conditions or has represented to Engineer that, to the best of Client's knowledge, a Hazardous Environmental Condition does not exist at or near the site.

**Shop Drawing Review.** If, as a part of this Agreement, Engineer reviews and approves Contractor submittals, such as shop drawings, product data, samples and other data, these reviews and approvals shall be only for the limited purpose of checking for conformance with the design concept and the information expressed in the contract documents. This review shall not include review of the accuracy or completeness of details, such as quantities, dimensions, weights or gauges, fabrication processes, construction means or methods, coordination of the work with other trades or construction safety precautions, all of which are the sole responsibility of the Contractor. Engineer's review shall be conducted with reasonable promptness while allowing sufficient time in Engineer's judgment to permit adequate review. Review of a specific item shall not indicate that Engineer has reviewed the entire assembly of which the item is a component. Engineer shall not be responsible for any deviations from the contract documents not brought to the attention of Engineer in writing by Contractor. Engineer shall not be required to review partial submissions or those for which submissions or correlated items have not been received.

**On-Site Observation.** If on-site observation of Contractor's work is a part of this Agreement, Engineer shall make visits to the site at intervals appropriate to the various stages of construction as Engineer deems reasonable. The site visits are for the limited purpose of becoming generally familiar with the progress and quality of the work completed and to determine in general if the work is being performed in a manner indicating that the work when completed will be in accordance with the contract documents. However, Engineer shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work. Engineer does not guarantee or warrant the performance of Contractor. Engineer is not responsible for construction means, methods, techniques, sequence or procedures, time of performance, or programs in connection with the construction work. Engineer is not responsible for Contractor's failure to execute the work in accordance with the contract documents. Engineer is not responsible in any way for Contractor's, Subcontractors', or their agents or employee's compliance with OSHA or any federal, state or local laws or regulations. Engineer is not responsible for Project or site safety. Project and site safety shall be the sole responsibility of Contractor. Engineer shall not have control over or charge of acts or omissions of Contractor, Subcontractor, or their agents or employees, or any other persons performing portions of the work. Given the foregoing, Client also shall, to the fullest extent permitted by law, waive any claim against Engineer, and indemnify, defend, and hold Engineer harmless from any claim or liability for injury or loss arising from Engineer's alleged failure to exercise site safety responsibility. Client also shall compensate Engineer for any time spent or expenses incurred by Engineer in defense of any such claim. Such compensation shall be based upon Engineer's prevailing fee schedule and expense reimbursement policy.

**Termination.** This agreement may be terminated by either party with seven (7) days written notice in the event of substantial failure to perform in accordance with the terms of this agreement by the other party through no fault of the terminating party. In the event of termination, Engineer shall be paid for any and all services performed to the termination notice date plus, direct project expenses and reasonable termination expenses. Expenses of termination or suspension shall include all direct costs of Engineer incurred to complete analyses, records, or files and may also include a report on the services performed to the date of notice of termination or suspension.

**Payment.** Progress payment shall be made for services performed and shall be due upon receipt of invoice. Compensation for additional services shall be paid at Engineer's standard hourly rates. Payment of any invoice by Client shall mean Client is satisfied with Engineer's services to date of payment and is not aware of any deficiencies in those services. If payments are delinquent after thirty (30) days from invoice date, Client agrees to pay interest on the unpaid balance at the rate of 1-1/2% per month from the date of invoice. Any charges held to be in dispute shall be called to the Engineer's attention in writing within ten (10) days of receipt of invoice. Any dispute not resolved within ten (10) days following receipt of written objection shall be resolved within thirty (30) days in accordance with the Mediation provision of this Agreement. Interest as stated above shall be paid on disputed amounts resolved in Engineer's favor. Client agrees to pay attorney fees and all collection costs associated with past due invoices not brought to Engineer's attention as disputed; or in proportion to the results of the Mediation provision, if used. If Client fails to make monthly payments due Engineer, Engineer may after giving seven (7) days written notice to Client, suspend services under this agreement if disputed charges are not paid within 45 days of receipt of Engineer's invoice, and Client agrees to waive any claim against Engineer, and to indemnify, defend and hold Engineer harmless from and against any claims arising from Engineer's suspension or termination due to Client's failure to provide timely payment. No deductions shall be made from Engineer's Compensation on account of any Claim by Client for alleged errors or omissions in the services provided by Engineer.

**Delays.** If the Project is delayed or if Engineer's services for the Project are delayed or suspended for more than three (3) months for reasons beyond Engineer's control, Engineer may after giving seven (7) days written notice to Client terminate this Agreement and Engineer shall be paid for services performed to the termination notice date.

including direct project expenses due, plus termination expenses. If the Project continues after a delay or suspension of more than 90 days, Engineer shall be entitled to an equitable adjustment of rates and amounts of compensation to reflect costs incurred as a result of such delay or suspension.

**Construction Defects.** Engineer shall not be responsible for the defects, deficiencies, or omissions in the work of Contractor, any Subcontractor, any of Contractor's or Subcontractor's employees, or any person or entities responsible for performing work which results from the construction contract documents to be prepared by Engineer. Engineer shall have the authority to recommend to the Client rejection of any work that is not, in the judgment of the Engineer, in conformance with the Construction Documents or work plans. Neither this authority nor Engineer's good-faith judgment to reject or not reject any work shall subject Engineer to any liability or cause of action to Contractor, subcontractors or any other suppliers or persons performing work on this project.

**Ownership of Documents.** In accepting and utilizing any drawings, specifications, reports, work product, or other data, including data on any form of electronic media (all hereafter referred to as drawings and data) generated and provided by Engineer, Client covenants and agrees that all such drawings and data are instruments of service of Engineer, who shall be deemed the author of the drawings and data, and shall retain all common law, statutory law and other rights, including copyrights, whether the Project is completed or not. In the event of conflict between electronic media and sealed drawings, sealed drawings govern. Client and Engineer agree that any CADD files prepared by Engineer shall conform to Engineer's standard procedure unless noted otherwise in writing. The drawings and data submitted by Engineer to Client are submitted for an acceptance period of 14 days. Any defects Client discovers during this period will be reported to Engineer and will be corrected as part of Engineer's Basic Scope of Services. Correction of defects detected and reported after the acceptance period will be compensated as Additional Services. Client further agrees not to use the drawings and data, in whole or in part, for any purpose or project other than the Project which is the subject of this Agreement. Client shall make no claim against Engineer resulting in any way from any unauthorized changes or reuse of the drawings and data for any other project by anyone. In addition, Client agrees, to the fullest extent permitted by law, to indemnify and hold Engineer harmless from any damage, liability or cost, including reasonable attorney's fees and costs of defense, arising from any changes made by anyone other than Engineer or from any reuse of the drawings and data without the prior written consent of Engineer. Under no circumstances shall transfer of the drawings and data and other instruments of service on electronic media for use by Client be deemed a sale by Engineer, and Engineer makes no warranties, either express or implied, of merchantability and fitness for any particular purpose.

**Limitation of Liability.** In recognition of the relative risks and benefits of the Project to both Client and Engineer, the risks have been allocated such that Client agrees, to the fullest extent permitted by law, to limit the liability of Engineer and Engineer's officers, directors, shareholders, employees, agents and its consultants to Client and to all construction contractors and subcontractors on the Project for any and all claims, losses, costs, damages of any nature whatsoever, including but not limited to Engineer's negligence, professional errors or omissions, strict liability, breach of contract, warranty express or implied, or claims expenses from any cause or causes, including attorneys' fees and costs and expert witness fees and costs, so that the total aggregate liability of Engineer and Engineer's officers, directors, shareholders, employees, agents and its consultants to all those named shall not exceed Engineer's total fee for services rendered on this Project. It is intended that this limitation apply to any and all liability or cause of action however alleged or arising. In no event shall Engineer be liable for incidental or consequential damages.

**Indemnity.** Client will require any contractor or subcontractor performing work in connection with drawings and specifications produced under this agreement to indemnify and hold harmless Client and Engineer and Engineer's officers, directors, shareholders, employees, agents and consultants from and against any and all claims, costs, losses, and damages (including but not limited to all fees and charges of Engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising out of or alleged to arise from the Contractor's or Subcontractor's negligent acts or omissions in the performance of the work described in the construction contract documents, but not including liability that is due to the negligence of Client, Engineer, or Engineer's officers, directors, shareholders, employees, agents or consultants.

To the fullest extent permitted by law, Client shall indemnify and hold harmless Engineer, Engineer's officers, directors, shareholders, employees and agent and Engineer's consultants from and against any and all claims, suits, demands, liabilities, costs, losses and damages (including but not limited to all fees and charges of Engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) caused by the negligent acts or omissions of Client or Client's officers, directors, partners, employees, agents and Client's consultants with respect to this Agreement or the Project.

To the fullest extent permitted by law, Client shall indemnify and hold harmless Engineer, Engineer's officers, directors, shareholders, employees and agent from and against any and all claims, suits, demands, liabilities, costs, losses and damages (including but not limited to all fees and charges of Engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising out of or in any way connected with the detection, presence, handling, removal, abatement, or disposal or any asbestos or hazardous or toxic substances, fungi or bacteria, products or materials that exist on, about or adjacent to the Project site, whether liability arises under breach of contract or warranty, tort, including negligence, strict liability or statutory liability or any other cause of action, except for the sole negligence or willful misconduct of Engineer.

**Mediation.** In an effort to resolve any conflicts that arise during the design or construction of the Project or following the completion of the Project, Client and Engineer agree that all disputes between them arising out of or relating to this Agreement shall be submitted to nonbinding mediation unless the parties mutually agree otherwise. Client and Engineer further agree to include a similar mediation provision in all agreements with independent contractors and consultants retained for the project and to require all independent contractors and consultants also to include a similar mediation provision in all agreements with subcontractors, subconsultants, suppliers or fabricators so retained, thereby providing for mediation as the primary method for dispute resolution between the parties to those agreements.

**Acknowledgment.** Client acknowledges that Engineer is a corporation and agrees that any claim made by Client arising out of any act or omission of any officer, director, shareholder or employee of Engineer, in the execution or performance of this Agreement, shall be made against Engineer and not such officer, director, shareholder or employee.

**Force Majeure.** Engineer shall not be responsible or liable for any damages or delay, including, but not limited to, those which arise from Acts of God, strikes, walkouts, accidents, Government Acts, or other events beyond the control of Engineer.

**Laws.** This agreement shall be governed by the laws of the State of Iowa.

**Severability.** In the event any provisions of this agreement shall be held to be invalid and unenforceable, the remaining provisions shall be valid and binding upon the parties. One or more waivers by either party of any provision, term, condition or covenant shall not be construed by the other party as a waiver of a subsequent breach of the same by the other party. All obligations arising prior to the termination of this Agreement and all provisions of this Agreement allocating responsibility or liability between Client and Engineer, including ownership of documents, shall survive the completion of the services hereunder and the termination of this Agreement.

**Assigns.** Neither Client nor Engineer shall delegate, assign, substitute or otherwise transfer its duties under this agreement without the written consent of the other party.