

## AGENDA ITEM: 8.

### Memorandum

**To:** PPO Subcommittee  
**From:** Amanda Grint, Water Resources Engineer  
**Date:** October 6, 2011  
**Re:** Waterloo Levee Erosion Issue Professional Services Contract

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In June 2008, the Board of Directors approved the first cost share with the Village of Waterloo to study, design and construct improvements to their levee in order to accredit the levee and comply with all FEMA and USACE regulations. This work was completed on September 6, 2011 and the accreditation package has been submitted to FEMA for approval. During this time, the Village of Waterloo has been monitoring a location near the levee and JC Robinson Boulevard where erosion along the bank of the Elkhorn River is coming close to the toe of the levee. See attached map for location. District staff has been aware of this location and attempted last year with the Emergency Watershed Program through NRCS to help the Village obtain funding to stabilize the area.

The NRCS visited the site in June 2010 and determined that the project was ineligible for EWP funding because the slope, although sloughed, was fairly stable. The ice out season of last year impacted this eroded area and caused further erosion and approximately 2 to 3 feet of the bank sloughed off into the river. This occurrence put the levee in jeopardy as the eroded bank of the Elkhorn is now within 15 feet of the toe of the levee. The Village contacted the District and has asked for assistance to stabilize the bank to protect the newly constructed levee. The Village requests a cost share of 50/50 on a professional services contract with JEO Consulting (attached) to design a concept and develop plans for the stabilization of the bank. The contract amount is an hourly not to exceed fee of \$45,190 and the District share would be \$22,595. The District has requested that if this proposed contract is approved that Tetra Tech provide an independent review of the concept and design documents. The Village and the District would cost share 50/50 on this review and although the amount of the review is unknown, it is anticipated that it would be under \$20,000 and the maximum contribution by the District would be \$10,000. This review is requested because Tetra Tech has extensive knowledge of the Elkhorn River and has been a part of many Elkhorn River stabilization projects in the past.

The USACE was contacted to review the threat to the levee and determine if funding assistance could be provided through one of their programs. The response letter is attached showing that it was not eligible. Although the NRCS has already visited the site and determined that it was not eligible, District staff will work with the Village and NRCS to revisit the project since additional erosion has occurred. However, EWP funding for this year has not been allocated to the NRCS and may not be. Any funding source that is identified will reduce the District's cost share as the District will cost share only on the local portion of the project.

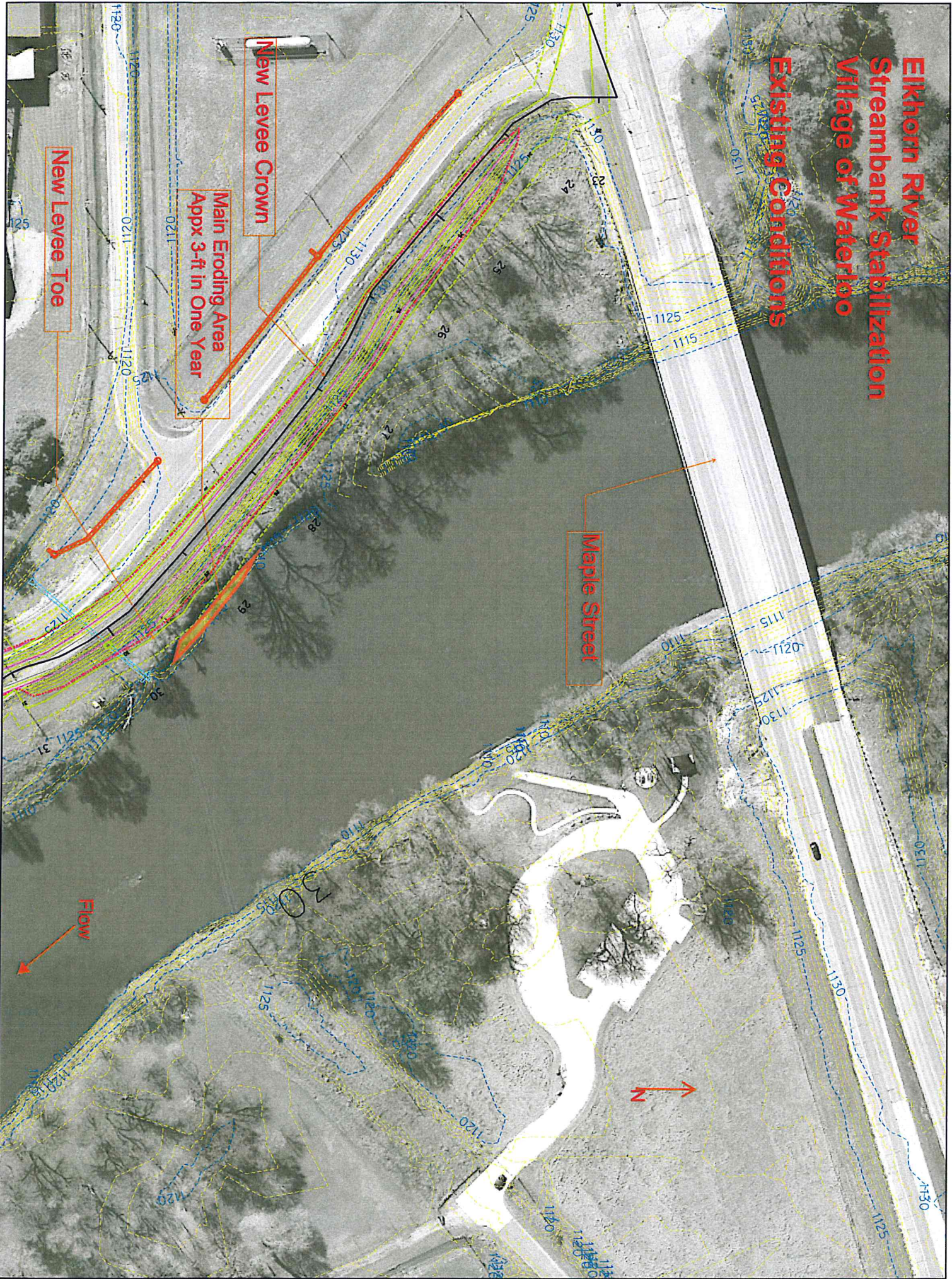
At such time as a concept has been chosen and reviewed, the project would be presented to the Board for further action.

**Management recommends that the Subcommittee recommend to the Board of Directors that the General Manager be authorized to execute a revised Interlocal Agreement with the Village of Waterloo for additional costs up to \$32,595 for the design costs of bank stabilization to protect the Waterloo levee subject to changes deemed necessary by the General Manager and District Legal Counsel.**



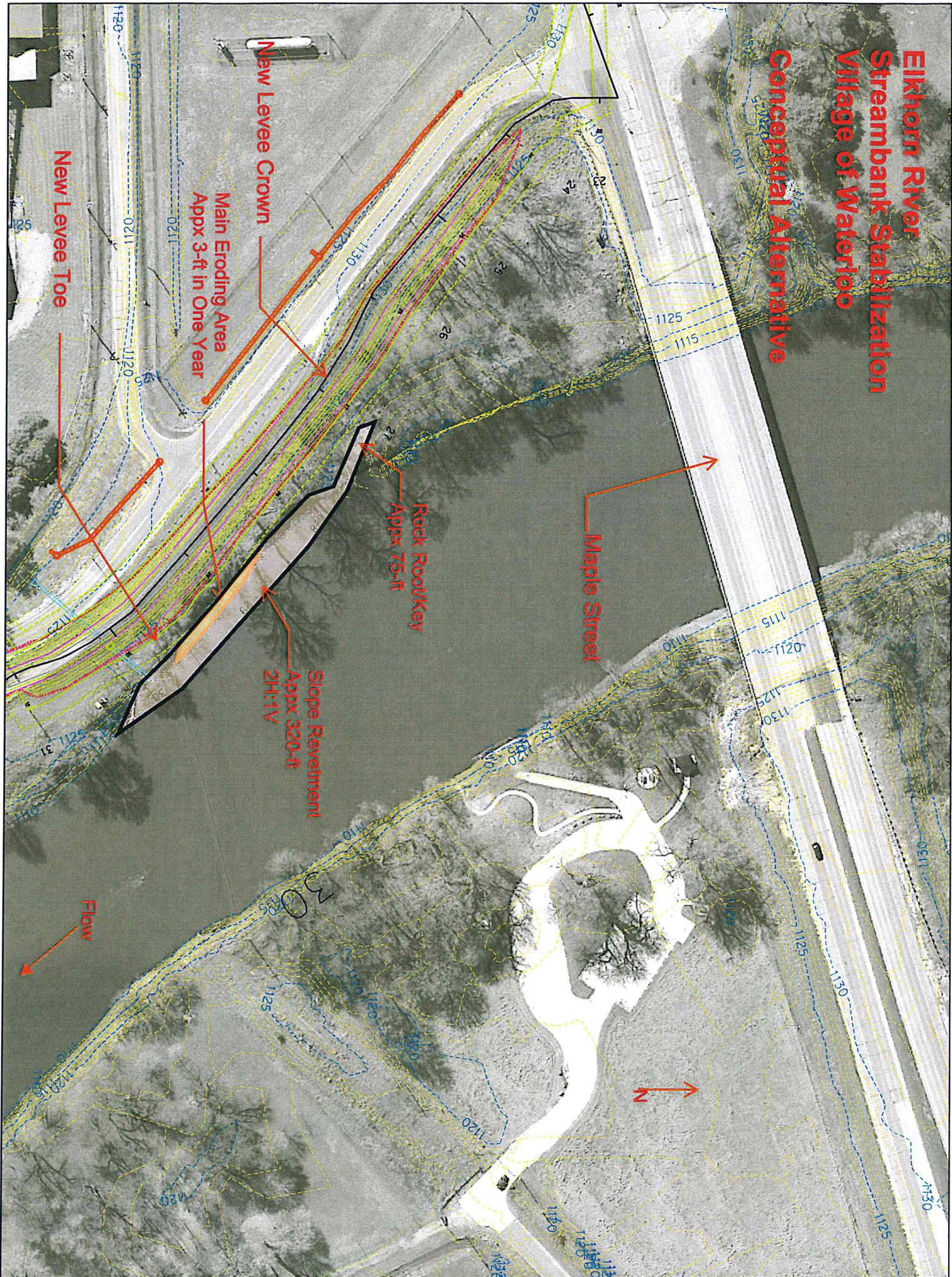
# Elkhorn River Streambank Stabilization Village of Waterloo

## Existing Conditions

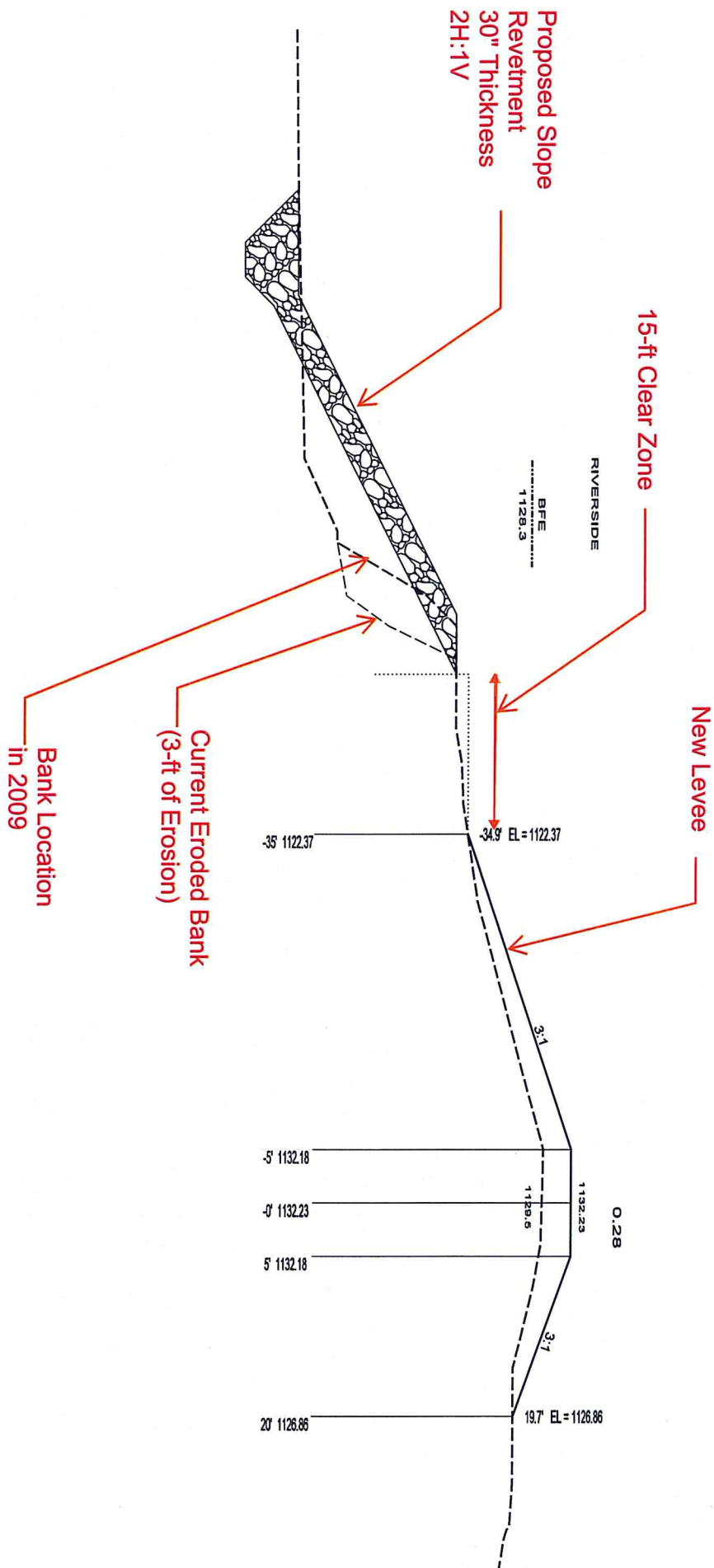




## Conceptual Alternative









REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
**OMAHA DISTRICT, CORPS OF ENGINEERS**  
1616 Capital Ave., Ste. 9000  
OMAHA, NEBRASKA 68102-1618

September 13, 2011

Readiness Branch

Village of Waterloo  
Stanley Benke, Jr., Board Chairman  
509 S Front St  
Waterloo, NE 68069

Dear Mr. Benke:

This letter is in response to your 2011 Flood request for rehabilitation assistance under the Public Law (PL) 84-99 Rehabilitation and Inspection Program (RIP) for Waterloo, Nebraska, Flood Control Project.

To be eligible for rehabilitation assistance under PL 84-99 RIP, the flood control works project must have been damaged due to a flood event. According to the USGS records, the Waterloo gage peaked near 9.2 feet on February 17, 2011. On June 20, 2011, due to a rain event, the Elkhorn River at Waterloo peaked at 9.82 feet. Flood stage at Waterloo is 17 feet.

Therefore, the damages noted on the request for rehabilitation are not eligible for PL 84-99 assistance, since neither of the above noted events was above flood stage and thus considered normal Operations and Maintenance.

The Omaha District would be glad to meet with you to discuss this further with the levee district. Please contact Ryan Buckley at 402-995-2446 to schedule a meeting or to answer any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Kimberly S. Thomas", is written over the typed name.

Kimberly S. Thomas, P.E.  
Chief, Readiness Branch  
Omaha District

CF:  
CENWO-OD-MR (Willcuts)  
CENWO-ED-GA (Flere)

**Attachment 1 to Exhibit A**  
**Scope of Services**  
**Elkhorn River Bank Stabilization near Dryers Road and JC Robinson Boulevard**  
**Village of Waterloo, NE**

**Project Description**

The purpose of the project is to develop construction plans and specification to address the bank erosion problem that has endangered the levee adjacent to JC Robinson Boulevard in Waterloo, NE. See Attachment for proposed project location.

**Project Tasks**

Our approach to this project is divided in four major tasks: 1) Preliminary Design (30% plan set), 2) Final Design, Construction Plans, and Specifications, 3) Bid Documents and Bid Letting, and 4) Construction Phase Services.

**Task 1: Preliminary Design (30% plan set)**

During this task, the JEO team will develop a preliminary design of the proposed intervention based on the project background information, topographic survey, geotechnical investigation, and hydrologic and hydraulic (H & H) analysis. The JEO team will then review the preliminary design with the stakeholders (Village of Waterloo, Papio Missouri NRD, USACE, and Adjacent Land Owners, etc.). A meeting with USACE to discuss the 404 permitting process based on the preliminary design information will be arranged.

*Task 1.1: Kick-Off Meeting*

A Project Kick-Off Meeting will be held with the Project Sponsors to discuss the scope and nature of the project, and to refine the project's goals and objectives. We will identify interested public and private agencies or persons who will need to be consulted about various aspects of the project. A site visit with Project Sponsors technical representatives and other stakeholders will also be held to discuss the project location and other relevant information. We will provide the agenda and minutes from the meeting(s).

*Task 1.2: Gather, compile, and review background information.*

Much of the necessary existing information has been developed during the levee project near this location. This task will include gathering and reviewing relevant information which may include:

- 1.2.1 Previous relevant reports.
- 1.2.2 Modeling Input/Output files.
- 1.2.3 Maps and aerial photos.
- 1.2.4 Geographic Information System (GIS) and electronic files/coverages.
- 1.2.5 Review existing geotechnical, geological, and groundwater information.
- 1.2.6 Review any environmental assessment reports prepared for the project area.
- 1.2.7 Review design memorandum and as-built plans for the projects adjacent to this project.

### *Task 1.3: Field Data Collection*

The field survey will be coordinated with the Project Sponsors to ensure that information on all relevant and unique features is collected. The timing of the survey will emphasize on minimizing the disturbance to the adjacent properties.

#### *1.3.1: Topographic and Longitudinal Profile Survey*

The JEO team will conduct the topographic field survey at the project site. A topographic map of the design reach will be created with sufficient detail to design the proposed intervention. A sufficient number of temporary benchmarks will be placed so that horizontal and vertical control can be established throughout the design and construction of the proposed interventions.

#### *1.3.2: Geotechnical Assessment*

The JEO team will review available geotechnical reports that will provide information on design features such as but not limited to: slope stability and soil properties.

### *Task 1.4: Hydrologic and Hydraulic (H & H) Analysis*

Existing available hydrology and hydraulic models encompassing the project area will be reviewed to determine the design parameters, specifically including using HEC RAS to determine expected channel velocities to best design the stabilization methods and structures.

### *Task 1.5: Site Selection and Preliminary Design Plans*

Following the collection of the field data and the analysis (H & H, geotechnical, wetland, etc.) of the site, we will focus on developing cost effective stabilization alternatives for this reach. These plans will be developed to have no adverse impacts to the levee while meeting the overall goals of the project.

The preliminary design plan sets will be developed and submitted for review and comments at the 30% completion stage. An opinion on the probable construction cost will also be prepared and submitted to the Project Sponsors. The review comments will be incorporated into the final design. If necessary, a meeting will be held with the Project Sponsors, landowners, and other stakeholders to discuss and address the review comments.

### *Task 1.6: Design Memorandum*

A design memorandum will be prepared summarizing the findings of H & H and geotechnical analysis. The memorandum will also outline the individual project descriptions with cost opinions and recommendations.

## **Task 2: Final Design, Plans, Specifications, and Cost Opinion**

Based on the input received from the preliminary design reviews, we will refine the preliminary design and proceed with the development of final construction plans and specifications. These will be supplemented by additional drawings or specification notes on the drawings to provide full installation instructions. Standard drawing sheet sizes will be used. The final plans will be submitted to the Project Sponsors for final review and approval. The tasks will include:

### *Task 2.1: Prepare detailed final plans, specifications and special provisions.*

Elements shown on the plans will include: cross sections where necessary, plan and profiles, removals (including trees), bank stabilization details, plant palette details for soil bio-engineering techniques, quantities, and construction phasing. The plans will also include horizontal & vertical control and lateral profile sheets. Utilities and utility conflicts will be shown on the plan and profile sheets.

### *Task 2.2: Prepare and show on the plans all easements and ROW acquisitions.*

JEO will identify any easements necessary for the construction of the project. The Project Sponsors will be responsible for negotiating all ROW and land acquisitions.

### *Task 2.3: Submit final signed drawings and specifications. Include a copy in digital format.*

### *Task 2.4: Provide final plans and specifications to project stakeholders, funding agencies, and regulatory agencies.*

### *Task 2.5: Permitting Assistance*

The Consultant shall prepare and submit on behalf of the Project Sponsors the following permits:

- ☐ Corps of Engineers 404 Permit \*
- ☐ SWPPP - NPDES Permit
- ☐ Local (Floodplain, etc)

**\*The consultant will provide coordination and paperwork required for permitting for construction of proposed improvements. The proposed design for this project will emphasize on minimizing impacts to any 'water of the United states' and meet the requirement of a Nationwide 404 permit. This scope and fee "DO NOT" include Jurisdictional Wetland Evaluation and Delineation and Individual Permitting. If necessary, an amendment to the contract will be made to perform additional permitting services.**



#### *Task 2.6: Opinion of Cost*

Provide an opinion of probable construction costs and total project costs at 90% submittal and final plan stages.

#### **Task 3: Bidding Documents and Bid Letting**

This task includes the process of assisting the Project Sponsors in advertising and letting the proposed streambank stabilization project. Necessary associated bidding documents will be prepared.

##### *Task 3.1: Prepare Bid Documents*

Prepare forms for contract documents including proposals, advertisements for bids, construction contracts, and payment and performance bonds as required, all subject to the approval of the Project Sponsors

*Task 3.2: Furnish plans, specifications, and contract documents of the project to prospective bidders at a cost to contractors.*

*Task 3.3: Attend the pre-bid meeting & site showing to answer questions.*

*Task 3.4: Conduct the bid opening, tabulation of construction bids, and recommend the most cost effective bid to the Project Sponsors.*

*Task 3.5: Following opening of bid, prepare contract documents with selected contractor*

#### **Task 4: Construction Phase Services**

Construction phase services are not included with this contract.

#### **Deliverables**

Deliverables will be distributed to stakeholders as necessary throughout the project. Specific deliverables for this project will include:

- a) Monthly Progress Reports.
- b) Modeling Data and other Calculations.
- c) Design Memorandum.
- d) Right-of-Way Descriptions.
- e) Construction Plans and Specifications.
- f) Permit Applications
- g) Bidding Documents.

#### **Schedule**

Notice to Proceed .....	August 2011
Project Kick-off Meeting .....	August 2011
Field Data Collection.....	August 2011
30% Preliminary Design and Meeting .....	September 2011

(Attachment 1 to Exhibit A – S)

90% Completion and Plan-in-Hand Meeting .....	November 2012
Final Plans and Specifications .....	January 2012
Construction Bid Award and Contract .....	February 2012
Construction .....	Spring 2012

\* Note: Project schedule is dependent upon timely reviews by regulatory agencies and stakeholders, as well as timely project direction from the Project Sponsors. Project schedule is also contingent upon ability to do the field work due to the weather condition. It is anticipated that the notice to proceed from the Project Sponsors will be given by August 1, 2011.

**PROJECT FEE<sup>(1)</sup>**

- Task 1 - Preliminary Design	\$21,295.00
- Task 2 - Final Plans, Specifications and Cost Opinion	\$16,600.00
- Task 3 – Bid Documents and Bid Letting	\$4,307.00
- Task 4 - Construction Phase Services	\$0.00
- Project Management (Tasks 1, 2, and 3)	\$2,928.00
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<b>TOTAL FEE: \$45,190.00</b>	

<sup>(1)</sup> The Standard Hourly Rates will be adjusted annually in January to reflect equitable changes in the compensation payable to Engineers. This adjustment will require a contract amendment based on the amount of project tasks outstanding at that time.

**SERVICES NOT INCLUDED:** (If necessary, a fee for these services can be negotiated)

- A. Additional site visits/meetings by ENGINEER not currently noted in the scope of services.
- B. Permitting outside of Task 2.5 listed above
- C. Error correction for existing right-of-way and/or easement documents.
- D. Negotiation of right-of-way and/or easements.
- E. Project management and coordination tasks beyond the scheduled project completion period.
- F. Significant design alterations due to comments by stakeholder and permitting agencies that occur during review of the final plans and specifications (i.e., after comments from the 90% plan review stage have been responded to).
- G. Construction Phase Services

**OWNER TO PROVIDE:**

- A. Provide timely plan reviews, all criteria and full information as to project requirements.

(Attachment 1 to Exhibit A – S)



- B. Provide all available study and design information relevant to this project.
- C. Acquire permission from landowners for access related to survey and geotechnical work, as necessary.