



**To:** Mayor and Ames City Council

**From:** Steven L. Schainker, City Manager

**Date:** December 6, 2013

**Subject: Flood Mitigation Plan**

On November 26, 2013, the staff recommended that the City Council pass a resolution supporting a three-part flood mitigation plan. (See attached Council Action Form). This recommendation was offered after reviewing the draft report from our consulting firm, HDR, and two meetings with the City Council where the cost/benefit calculations regarding various options were discussed.

The recommended plan would include the following elements:

**1) Conveyance**

- Reshaping the Squaw Creek channel immediately upstream and downstream of the South Duff Avenue bridge crossing.
- Expanding of the width of the U.S. Highway 30 bridge over Skunk River.

**2) Long-term**

- Working with the Squaw Creek Watershed Management Authority to address flood mitigation strategies higher up in the watershed.

**3) Floodplain Regulatory Controls**

- Reviewing existing floodplain regulations and considering possible strategies to manage the flood plain differently to mitigate the impact of future flooding.

**After reviewing the various options provided by our consultant, I thought it would be important for the City Council to declare its strategy for mitigating river flooding for the benefit of public who is following this issue as well as that staff who will have to implement your strategy. Therefore, you were asked to make this declaration by passing a resolution in support of the three-part plan. It became apparent from your action at the November 26<sup>th</sup> meeting that there were not enough votes to support all three parts of the proposed plan.**

**Absent the necessary votes to adopt this plan in total, you will be asked on December 10th to consider a series of motions that would give staff direction on how to proceed regarding this important issue. This approach will allow Council members to vote separately on each proposed direction.**

The separate actions would include the following:

- A motion approving the issuance of a Request for Proposals for professional consulting services to assist in the pursuit of FEMA grants for reshaping the Squaw Creek Channel. The estimated cost for this service is \$85,000. A recommended funding source will be identified prior to the approval of the consulting services contract.
- A motion approving the inclusion of the Squaw Creek channel reshaping project totaling \$5,920,000 (with the City's share at \$1,480,000 and FEMA share at \$4,440,000) in the Capital Improvements Plan for sometime during the next five years.
- A motion directing City staff to engage the Iowa DOT in discussions to accelerate the Highway 30 bridge replacement.
- A motion directing the Mayor and City staff to remain actively engaged in the Squaw Creek Watershed Management Authority and support efforts to pursue additional flood mitigation measures higher up in the watershed through that entity.
- A motion approving the scheduling of a Council workshop to discuss possible floodplain regulations.

ITEM # 21  
DATE: 11-26-13**COUNCIL ACTION FORM****SUBJECT:** FLOOD MITIGATION PLAN**BACKGROUND:**

On October 29, 2013, staff presented the final results of the flood mitigation study. The staff report accompanying that presentation recommended a three-pronged approach for achieving the Council's goal of mitigating the impacts of flooding in the Ames Community. **The three elements of the recommended course of action included (1) undertaking conveyance improvements on the Squaw Creek and South Skunk River, (2) exploring regulatory changes to how the flood plain is managed, and (3) working through the Squaw Creek Watershed Management Authority to undertake long-term flood improvements higher up in the watershed.**

This report deals with the first of these three elements – conveyance improvements to facilitate the flow of flood waters through the community.

**Conveyance Improvements.** The recommended conveyance improvements include two projects. The first is to **reshape the Squaw Creek channel immediately upstream and downstream of the South Duff Avenue bridge crossing**. As modeled by the consultants, this alternative would reduce the water surface elevation of the 1% annual chance flood (i.e., the “100-year flood”) by two feet at South Duff Avenue. The benefit of the improvement would be less upstream of Duff Avenue. This alternative is believed to have a high likelihood of being eligible for FEMA grants. To begin moving forward on this element, staff recommends that \$85,000 be identified in the current year's budget to begin the application process for FEMA and other grants. The success of the grant applications would likely be known by December of 2014. Design work for the improvements could then occur during FY 15/16, with the construction permits from the Iowa DNR and Army Corps of Engineers being acquired on a parallel path. Construction then could most likely take place during FY 16/17. If the City is successful in obtaining FEMA funding, a 25% state/local match would be required. Staff recommends that the City's portion of these costs be shown in the Capital Improvements Plan as coming from general obligation bonds.

The second project related to conveyance improvements involves the **improvements to the U.S. Highway 30 bridge**. The initial response from FEMA was that this project would not be eligible for disaster mitigation funds. However, staff still intends to actively explore other grant opportunities for this project.

The bridges were constructed in 1964, and at this time are not on the Iowa Department of Transportation's (IDOT's) current five-year plan for replacement. Options for undertaking and funding this mitigation project include the following:

- A. Request that IDOT accelerate the timing of the project.
- B. Wait for the IDOT to advance the project on its own timeframe.
- C. Seek IDOT or federal funding opportunities to help accelerate the improvements.
- D. Offer to help partially fund the project to accelerate the timing.
- E. Choose to fund the project entirely with local funds and proceed immediately.

**At this time, staff is not recommending that the Highway 30 bridge be included in the City of Ames Capital Improvements Plan, and is also not recommending that any local funds be designated for this work. Instead, staff proposes to engage IDOT staff in discussions seeking to accelerate the timing for state and federal funds to undertake the project. The City Council, Ames Chamber of Commerce, and others may also wish to contact the Governor's Office, Iowa DOT administrators, and area legislators to see what options may exist for advancing the priority of the Highway 30 bridge replacement.**

**Floodplain Regulatory Controls.** Staff proposes to hold a Council workshop on existing floodplain regulations and possible strategies to manage the flood plain differently to mitigate the impact of future flooding. This workshop could be held as early as February or March 2014, and could be held in conjunction with a discussion of the proposed Post-Construction Storm Water Ordinance.

**Squaw Creek Watershed Management Authority.** The City of Ames is a founding member of the Squaw Creek Watershed Management Authority (WMA). The WMA is being administered through Story County, which was recently awarded a \$160,000 State grant to develop a strategic master plan for the watershed. With input from a WMA technical advisory committee, the Board of Supervisors selected the firm of Emmons & Olivier Resources, Inc. (EOR) to prepare this master plan. Included in the scope of work is an assessment of the flood risks in the watershed, an assessment of options for reducing flood risk in the watershed, monitoring various flood risk activities in the watershed, education of residents in the watershed about flooding risks, and seeking funding for flood mitigation in the watershed. A number of public input and education activities are being planned; and EOR's work is scheduled for completion in September 2014.

The Squaw Creek WMA seems to be the best suited entity for addressing flood mitigation strategies higher up in the watershed. The multi-jurisdictional nature of the Authority lends itself to undertaking strategies that cross jurisdictional boundaries or impact multiple cities and counties. The Mayor and City staff continue to remain actively engaged in this organization. It is staff's intent, wherever appropriate, to work through the Authority to pursue the types of watershed storage improvements suggested by HDR in the Ames Flood Mitigation Study.

## **ALTERNATIVES:**

1. Direct staff to implement the following flood mitigation strategy:
  - A. Issue a Request for Proposals for professional consulting services to assist in the pursuit of FEMA grants for reshaping the Squaw Creek Channel. The estimated cost for this service is \$85,000. A recommended funding source will be identified during preparation of the upcoming budget.
  - B. Include the Squaw Creek channel reshaping project (\$5,920,000) in the Capital Improvements Plan update.
  - C. Engage the Iowa DOT in discussions to accelerate the Highway 30 bridge replacement.
  - D. Schedule a Council workshop on floodplain regulations.
  - E. Remain actively engaged in the Squaw Creek Watershed Management Authority, and support efforts to pursue additional flood mitigation measures higher up in the watershed through that entity.
2. Direct staff to implement some other flood mitigation strategy.
3. Take no action at this time.

## **MANAGER'S RECOMMENDED ACTION:**

The Ames Flood Mitigation Study concluded that the most cost-effective physical mitigation measures involved improving the conveyance capacity of Squaw Creek. Staff has developed a three-pronged approach with short-term measures (reshaping Squaw Creek), mid-range measures (Highway 30 bridge modifications and consideration of flood plain regulation modifications), and long-term measures (working with Squaw Creek Watershed Management Authority to pursue flood mitigation activities higher up in the watershed). This approach offers an opportunity to make immediate, meaningful improvements in the South Duff business corridor, where the highest dollar damage potential exists; while continuing to pursue other meaningful measures that cannot be accomplished in the near term.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, thereby directing staff to undertake the flood mitigation strategy outlined above.