

**COUNCIL ACTION FORM**

**SUBJECT: HAZARD MITIGATION GRANT PROGRAM PROJECTS**

**BACKGROUND:**

As reported at the March 1, 2011 and December 20, 2011 City Council meetings as a follow-up to the 2010 flooding, Public Works staff submitted 11 projects for consideration under FEMA's Hazard Mitigation Grant Program (HMGP). The Iowa Homeland Security and Emergency Management Division (HSEMD) has now completed their preliminary review of more of these projects.

If approved for funding, the cost share basis for these projects would be in amounts not to exceed 75 percent from federal funds, 10 percent from state funds, and the remaining 15 percent from local funds. Local match funding in the amount of \$820,000 was included in the Capital Improvements Plan's Flood Response and Mitigation Projects program.

A description for each of the eleven projects follows, along with an update for each project.

**Northridge Parkway** – This neighborhood has several homes that have experienced damage due to flooding during the 1993 and 2010 events. This project would mitigate the flood potential through grading, increasing local detention, additional storm pipe and intake improvements, and adjusting the grade of the shared use path in the area. The neighborhood has been responding to our request for documentation of flooding in this area. However, some residents are hesitant to provide the City with damage documentation as well as for the City to make improvements to the neighborhood in fear that their property could be negatively impacted.

**UPDATE:** Our indications are still pointing toward possible receipt of FEMA funds for this area's flood mitigation project. Staff intends to hold another neighborhood meeting to continue working through any hesitations that residents may have.

**Castlewood Place** – Three four-plex apartment units at the east end of Castlewood Place experienced flooding in the lower level units during August 2010. This project would include storm sewer improvements in the area.

**UPDATE:** Clapsaddle-Garber Associates has continued to work on the potential project in this area. In order for the benefit cost ratio to meet or exceed 1.0, there needs to be documented damage from more than one event. In this and several other locations, the projects are not meeting FEMA's benefit-cost ratio (BCR) calculations because residents can only document damage on one occasion

where the storm event was between a 50-100 year storm. Therefore, FEMA believes that the probability of this event happening again over the next 10 years is low and the dollar amount that will be needed to upsize storm sewer piping or add additional storage is high. For this project, the BCR = 0.13. Therefore, FEMA will not fund this project, and the City's Notice of Interest for the project will be withdrawn.

**Waterbury Court** – The homes along Waterbury Circle and Stonebrook Road experienced damage to the basements during the 2010 floods as a result of water backing up to the west from Ada Hayden. This project would include grading, storm sewer installation, and reconstruction of the impacted shared use path to prevent further damage.

**UPDATE:** Clapsaddle-Garber Associates has continued to work on the potential project in this area. In order for the benefit cost ratio to meet or exceed 1.0, there needs to be documented damage for more than one event. In this and several other locations, the projects are not meeting FEMA's BCR calculations because residents can only document damage on one occasion where the storm event was between a 50-100 year storm. Therefore, FEMA believes that the probability of this event happening again over the next 10 years is low and the dollar amount that will be needed to upsize storm sewer piping or add additional storage is high. For this project, the BCR = 0.15. Therefore, FEMA will not fund this project, and the City's Notice of Interest for the project will be withdrawn.

**North Park Villa** – Some residents in this area experienced damage to their basements during the 2010 floods. This project would include obtaining an easement and then regrading areas to create positive drainage away from the units.

**UPDATE:** Clapsaddle-Garber Associates has continued to work on the potential project in this area. In order for the benefit cost ratio to meet or exceed 1.0, there needs to be documented damage for more than one event. In this and several other locations, the projects are not meeting FEMA's BCR calculations because residents can only document damage on one occasion where the storm event was between a 50-100 year storm. Therefore, FEMA believes that the probability of this event happening again over the next 10 years is low and the dollar amount that will be needed to upsize storm sewer piping or add additional storage is high. For this project, the BCR = 0.30. Therefore, FEMA will not fund this project, and the City's Notice of Interest for the project will be withdrawn.

**Oakwood Drive Area** – The neighborhood on the north side of Oakwood Road has experienced basement flooding on several occasions due to storm water flowing overland and into garages and window wells.

**UPDATE:** Snyder & Associates went door to door on November 1 and 2, 2011 to solicit flood damage information from the neighborhood. A follow up letter was sent on November 18 as a final request for any available flood damage

information. In addition, Homeland Security did send us copies of the damage claims that the City of Ames submitted to FEMA for the 2008 event. We reviewed all of the claim forms, but they were all for other areas of the City; none of the damage could be attributed to flooding in the Oakwood Road area. We also received documentation of the FEMA assistance provided to several of the homeowners in 2010. These claims are included in our damage totals. In addition, a review of possible damages to City facilities in this area for the 2008 and 2010 floods indicates there were no damages attributable to these floods. Maps of the damages obtained from each property owner are attached. Properties outside of these maps had no damage provided. In summary, we were able to obtain \$203,396 in damages from the 2010 flood and \$0 in damages from the 2008 flood.

A review of the rainfall information that fell at the Ames Airport on August 8-9, 2010 indicates 4.69 inches of rain fell between 10pm and 4am. This equates to a 50-year storm event.

The Engineer's Opinion of Probable Project Cost is \$510,000. The proposed project would be installation of a 24" RCP storm sewer along Oakwood Road to University Boulevard.

Based on this information, a benefit cost ratio of 0.12 was developed using the Homeland Security model. This indicates the project would not be eligible for funding at this time. The lack of documented damages from the 2008 storm event is a major factor in the final benefit cost calculation. For example, if there were \$25,000 in documented damages in 2008, the benefit cost ratio would be 1.08. However, FEMA will not fund this project, and the City's Notice of Interest for the project will be withdrawn.

**Stuart Smith Park Bank Armoring** – This project was identified to protect the 24" water main that crosses Squaw Creek (near Lincoln Way), which is vital to maintaining the integrity of the City-wide water distribution system.

**UPDATE:** The 24-inch water main crossing under Squaw Creek serves as a main supply line to the west pressure zone of the City. This main supplies water to 18,500 Ames residents and to Iowa State University. This main is known to have a shallow depth and there has been concern for some time regarding the susceptibility of the main to bank erosion and flooding. Events experienced in 2010 highlighted this concern.

Flooding in August of 2010 resulted in multiple breaks in the City's water main system, draining the system and leaving the City's residents and businesses without potable water or fire protection. While the 24 inch main was not damaged, these events underscored its importance in maintaining service to residents.

Given the critical importance of this main, the City of Ames desires to complete improvements to stabilize and protect the eroding banks of Squaw Creek within the vicinity of the existing 24-inch water main and prevent future erosion and

flood waters from washing out the main and causing a catastrophic loss of water service to nearly half the City's residents.

The proposed improvements include construction of a transition area to carry water from the existing low head concrete dam down to the stream channel without creating an eddy pool. The banks along either side will be protected by sheet pile walls extending from the dam, to a location just beyond the existing main.

Based on this design and the damage potential from the loss of water, a benefit cost of over 5.0 has been determined. The final benefit cost number is not known at this time as final revisions to the benefit cost model are underway to address comments from Homeland Security. The total estimated cost of the proposed project is \$695,000. The City of Ames' contribution to the project is estimated at \$120,000.

**Schubert Street and Todd Drive** – Homes along Schubert Street and Todd Drive have experienced repeated flooding during larger storm events. This project is anticipated to include grading and possibly include storm sewer pipe installation in order to mitigate the basement flooding.

**UPDATE: FEMA has indicated that this project equates to a BCA = 0.41. Therefore, FEMA will not fund this project, and the City's Notice of Interest for the project has been withdrawn.**

**Trail Ridge Landslide** – During the flood events, areas of the Clear Creek bank eroded, causing landslides to occur along the hillside on an outside curve of the creek. A house is bordered by the creek to the northwest. Grading and land stabilization needs to occur in order to prevent impacts to this home.

**UPDATE: FEMA has indicated that this project equates to a BCA = 0.06. Therefore, FEMA will not fund this project, and the City's Notice of Interest for the project has been withdrawn.**

**Pi Kappa Alpha Union (PIKE) & Phi Kappa Theta (PKT)** – These fraternity houses are located lower than the surrounding area and have experienced repeated flooding of the lower levels. This project would include obtaining an easement and installation of storm sewer to intercept storm sewer run-off that flows through their sites.

**UPDATE: FEMA has indicated that this project equates to a BCA = 0.27. Therefore, FEMA will not fund this project, and the City's Notice of Interest for the project has been withdrawn.**

**Utah Drive Landslide** – During the flood events, areas of the Clear Creek bank eroded causing landslides to occur along the hillside on an outside curve of the creek. Two

houses are bordered by the creek to the northwest. Grading and land stabilization needs to occur in order to prevent impacts to the homes.

**UPDATE: FEMA has indicated that this project equates to a BCA = 0.22. Therefore, FEMA will not fund this project, and the City's Notice of Interest for the project has been withdrawn.**

**South Duff Siphon Access Structure** – This siphon was submerged for a number of days during the 2010 floods, thereby hindering maintenance crews from having full access to the structure. This project would include raising the elevation of the access to allow maintenance crews to have access even during flood events.

**UPDATE: FEMA has indicated that this project equates to a BCA = 0.27. Therefore, FEMA will not fund this project, and the City's Notice of Interest for the project has been withdrawn.**

Even though City staff and our consulting engineers have expended countless hours seeking to qualify these projects for FEMA funding, it is now clear that nine of the eleven projects do not meet FEMA's BCA criteria, and will thus be ineligible for grant funding. Regrettably, the City's Notices of Interest for these nine projects must be withdrawn.

Five of these flood mitigation projects were previously withdrawn from further HMGP funding consideration as reported on December 20, 2011. The four additional projects as reported above will be withdrawn following this Council meeting. In the future, the City Council will need to determine if we should proceed with any of the projects that will not receive federal funding.

Engineering analyses of the two remaining flood mitigation projects (Northridge Parkway and Stuart Smith Park Bank Armoring) will continue with the hope that they will be before the Council for approval to submit grant applications in the near future.

#### **ALTERNATIVES:**

- 1a. Approve a resolution as part of HMGP application through Iowa HSEMD to FEMA for local match funding up to \$120,000 (a minimum of 15 percent) for the Stuart Smith Park Bank Stabilization project with a total project estimated cost of \$695,000.
- b. Designate Tracy Warner, Municipal Engineer, as the applicant's Authorized Representative for the Stuart Smith Park Bank Stabilization HMGP projects.
2. Reject the HMGP applications and direct staff on how to further mitigate flooding of these areas.

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

By approving the resolution for this project, further FEMA funding can be applied for as part of mitigating further public infrastructure damage in this area of town.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, thereby approving the HMGP application for the Stuart Smith Park Bank Stabilization project with local match funding up to \$120,000 (a minimum of 15 percent) and designating Municipal Engineer Tracy Warner as the applicant's Authorized Representative.

**You will recall that a new program was added to the new Capital Improvements Plan which reflected funding from G.O. Bond revenues in the amount of \$820,000 for yet to be determined projects. In order to fund the two remaining projects that could receive FEMA, \$165,000 will be needed for the 15% local match.**

**The City Council will need to prioritize the projects not eligible for federal funding and give guidance as to which of the remaining projects should be funded totally with City monies. Since the City is scheduled to issue the bonds needed for the FY 2012/13 projects in the coming weeks, staff will be seeking Council direction on these projects in the near future.**