

## Iowa Flood Mitigation Program

### Waverly Flood Mitigation Improvements Phase 2 - Dry Run Creek Improvements

#### Executive Summary

The City of Waverly is submitting this application for financial assistance under the Flood Mitigation Program established by Iowa Code 418 and administered through the Iowa Homeland Security and Emergency Management Division. This application and supporting documentation outline how the proposed Waverly Flood Mitigation Improvements Phase 2 - Dry Run Creek channel improvements will:

- mitigate future flooding that affects hundreds of residences and businesses,
- mitigate future flooding that affects two state highways (IA 3 & IA 116),
- complement City stormwater management plans,
- address flood impacts upstream and downstream of the project, and
- provide opportunity for revitalization and reutilization of historically significant neighborhoods.

In 1999 and 2008, major flooding inundated a substantial area of Waverly. The City of Waverly engaged consultants to study the conditions that led to the devastating floods and find solutions to prevent future flooding. This work led to the *2009 Waverly Flood Mitigation Study* which was used as the basis for the Phase 1 - Inflatable Dam Improvements that were completed in November 2011, and updating the 2002 Dry Run Creek Improvements Study. The 2013 Dry Run Creek Study Update, conducted by WHKS & Co. along with Stanley Consultants, Inc., evaluated flooding of the Dry Run Creek watershed through the central portion of Waverly and presented recommendations for improvements.

The Dry Run Creek Improvements Study Update from January 2013, including Addendum A, are the major supporting engineering documents that detail the scope of work and significant elements of the project plan for Phase 2 of Waverly's Flood Mitigation Improvements. The City has enacted Resolution 13-89 which endorses the recommendations identified in the report and serves as notice that the City is prepared allocate local matching funds for the project and proceed with the design and implementation of the proposed improvements as soon as State of Iowa funding is secured.

The Dry Run Creek Improvements project is part of an overall strategy by the City of Waverly to reduce flood risk. The City experienced devastating flood damage from the Cedar River in 1999 and in 2008. In those events damage was caused when floodwater from the river spilled into the Dry Run Creek basin and inundated hundreds of homes. To mitigate the risks of river flooding, the City replaced the fixed-height concrete dam with an inflatable dam that enables flood flows to pass within the river banks. In addition, with federal assistance the City purchased and removed 90 properties that were prone to flooding and substantially damaged in the 2008 flood.

However, downtown and residential neighborhoods that are west of the Cedar River are still vulnerable to flooding from the Dry Run Creek during local rainfall events. A fatal flood on the Dry Run Creek in 1968 killed two residents and caused substantial property loss. The City's Dry Run Creek Improvements project is designed to increase conveyance through modifications to the channel and improvements to the roadway box culverts. The improvements will enable

passage of a 100-year flood within the stream banks, reducing potential damage to surrounding properties. Furthermore, the improvements create a more natural greenway and riparian corridor that is easily accessible by the City for channel maintenance and is a potential recreational asset for the public. Engineering analysis indicates this project eliminates widespread flooding for a 100-year rainfall event and removes approximately 450 commercial and residential structures from the 100-year flood zone. A map in the project plan shows the combined impact of both projects on the 100-year floodplain.

The Dry Run Creek runs through an historic residential section of the City of Waverly, west and parallel to the Cedar River. Hydraulic modeling indicated that floods approaching a 10-year recurrence interval overtop the existing channel banks. The City of Waverly has identified properties in the area that provide an historic, cultural or architectural benefit to the community. These properties are classified as a “key” or “contributing” component to the overall community. The Dry Run Creek channel improvements eliminate or reduce the flood threat to over one hundred fifty-eight (158+) properties noted as “contributing” and eighty-five (85) properties noted as “key” which are located within the current Dry Run Creek FEMA floodplain.

The realignment and reconstruction of the Dry Run Creek channel offers an opportunity to provide recreational and environmental enhancements as noted in the various studies. The enhancements, while located in the project corridor, will benefit the entire community and will “continue the vision” identified in several past studies that were prepared for the City. Opportunities exist to utilize not only the channel itself in a creative yet functional manner, but the corridor as a whole. The project will provide:

- opportunities for aesthetic enhancements,
- possibilities for a natural enhanced greenbelt, and
- revitalization and reutilization of the Dry Run Creek corridor.

The channel corridor will become a community element that is a functional flood mitigation success and a natural amenity.

A project cost estimate was developed based on the channel modifications and the associated proposed improvements. The cost estimate includes costs for the major work items, engineering, right-of-way acquisition and a contingency. The opinion of probable project cost is approximately \$7.1 million.

The City is requesting financial assistance from the Flood Mitigation Program for fifty (50%) of the \$11.3 million in eligible project costs or approximately \$5.65 million under Section 418.12 of the Iowa Code.

Waverly Flood Mitigation Improvements Costs

• Inflatable Dam – Phase 1 .....	\$ 4,223,898	(project closeout is pending)
• Dry Run Creek – Phase 2 .....	\$ 7,077,000	
Total Costs .....	\$ 11,300,898	

Waverly Flood Mitigation Improvements Financing

• Federal .....	\$ 4,223,898	(37.38%) (received)
• State .....	\$ 5,647,000	(49.97%)
• Local .....	\$ 1,430,000	(12.65%)
Total Financing .....	\$ 11,300,898	

Financial assistance provided by the Flood Mitigation Program by means of sale tax increment financing will allow construction of the Dry Run Creek improvements to advance on the following proposed schedule:

• Year 2015, Section A – 4 <sup>th</sup> St. SW to W. Bremer Ave.....	\$ 1,490,000
• Year 2015-16, Section B – W. Bremer Ave. to 7 <sup>th</sup> St. NW.....	\$ 2,275,000
• Year 2015-16, Section C – 1 <sup>st</sup> St. SW to 4 <sup>th</sup> St. SW.....	\$ <u>3,312,000</u>
	\$ 7,077,000

The City of Waverly has a Moody's bond rating of Aa2, the debt capacity and the legal means to bond for 100% of the estimated \$7.1 million cost of the Dry Run Creek Improvements. Based on the June 30, 2013, State Finance Report, the City of Waverly has a debt limit of \$31.6 million and the City is currently at \$13.2 million which is 41.8% of the bond capacity. The debt planning models show that the City of Waverly has tremendous flexibility in its ability to finance a project, thus ensuring that the Dry Run Creek flood mitigation improvements will be completed.

The City intends to use local funds first to finance the project design and property acquisition. The local funds come from a G.O. bond abated with property taxes. Only when necessary will the City issue the G.O. bond that will be abated with STIF. The City anticipates issuing the STIF-abated bond in early 2015 after the project is bid and prior to the start of construction.

The City believes that this project meets the requirements for financial assistance and will be a benefit to the neighborhood, community, watershed and state for the reasons mentioned below:

- mitigates future flooding that affects hundreds of residences and businesses,
- mitigates future flooding that affects two state highways (IA 3 & IA 116),
- complements local and regional stormwater management strategies,
- no flooding impact upstream or downstream of the project, and
- provides opportunity for revitalization and redevelopment of this historically significant neighborhood.

The completion of the Waverly Flood Mitigation Improvements, consisting of the Inflatable Dam on the Cedar River and the Dry Run Creek Improvements, will permanently remove 450 homes and businesses from the FEMA floodplain and allow for the remapping of the Flood Insurance Rate Maps. Until the Dry Run Creek improvements are completed, property owners remain at risk of more flood losses and the annual cost of flood insurance is about \$1,500 per home and rising. The completion of the Dry Run Creek improvements will eliminate the need for flood insurance on up to 450 properties and provide an economic benefit to the local and state economy of \$2 million annually when considering that every dollar saved on insurance could be spent three times over.