

Iowa Flood Mitigation Program (FMP) Flood Mitigation Project Application

I. Applicant Information

A. Applicant/Community Name	B. Address	City, State, Zip Code			
City of Council Bluffs	209 Pearl Street	Council Bluffs, IA 51503			
C. Point of Contact (POC) Name for Project					
POC Title	POC Agency	POC Email			
Greg Reeder	Public Works Director	City greeder@councilbluffs-ia.gov			
POC PO Box and Zip Code					
POC Street Address	POC City, State, Zip Code	POC Phone			
51503	209 Pearl Street	Council Bluffs, IA 51503 712-328-4634			
Alternate POC Name or Authorized Representative					
Alt POC Title	Alt POC Agency	Alternate POC Email			
Matthew Cox	City Engineer	City mcox@councilbluffs-ia.gov			
Alt POC PO Box and Zip Code					
Alt POC Street Address	Alt POC City, State, Zip Code	Alt POC Phone			
51503	209 Pearl Street	Council Bluffs, IA 51503 712-328-4634			
D. Federal Tax ID # / FEIN		E. County Name	F. US Congressional District(s)	State Legislative Districts	
		Pottawattamie	IA-003	Senate	House
				8	15, 16, 22
G. Is the Applicant/Community participating in the National Flood Insurance Program (NFIP)?				Community's CID Number	
Yes				190235	

II. Project Cost Information *Code of Iowa, section 418.4, subsection 2*

A. Identify the requested funding source:

Sales Tax Increment

B. Project Budget Summary

CDBG Flood-125 West Broadway	\$ 2,400,000.00
USACE 2011 Flood Fight and Rehabilitation	\$ 20,400,000.00
Industrial Park Levee Accreditation	\$ 6,500,000.00
Levee Accreditation Engineering Analyses	\$ 1,900,000.00
Levee System Improvements & Accreditation	\$ 50,000,000.00
Indian Creek Channel Rehabilitation	\$ 32,800,000.00
Total Project Budget Summary	\$ 114,000,000.00

C. Project Funding Source

Identify all anticipated funding sources for the project and the amounts. *Code of Iowa, section 418.4, subsection 2*

State that you have applied for and/or received approved federal financial assistance. *Code of Iowa 418.4, subsection 3b.*

Please insert additional rows as needed.

Identify source	Applied/ Received	Federal \$	Local \$	Sales Tax Increment
CDBG Program 08-DRH-215	Received	\$ 2,400,000.00		
U.S. Army Corps of Engineers	Received	\$ 20,400,000.00		
Iowa Flood Mitigation Program	Applied			\$ 57,000,000.00
City of Council Bluffs (See note)	Received		\$ 2,400,000.00	
City of Council Bluffs (See note)	Applied		\$ 31,800,000.00	
Note: Governmental Funds & Local Monies				
Total Project Funding Source		\$ 22,800,000.00	\$ 34,200,000.00	\$ 57,000,000.00
% of Total Cost		20.00%	30.00%	50.00%

III. Project Plan Summary

A. Provide a brief description of the project. Identify separately each component of construction or reconstruction included in the project. This is a summary of Tab B - Project Plan. Code of Iowa section 418.4, subsection 2

The City of Council Bluffs (City) is provided flood risk reduction by a Levee System approximately 28.5 miles in length adjacent to the Missouri River and tributaries (Indian Creek and Mosquito Creek). The Missouri River levee system is currently accredited by FEMA on Flood Insurance Rate Maps; however as a part of the remapping process, FEMA and the City have executed a Provisional Accreditation Levee (PAL) Agreement. This PAL Agreement gives the City time to document that the levee meets accreditation criteria set forth in 44 CFR 65.10. If the City is unable to certify the levee meets criteria, areas landward of the levee will be designated as floodprone. To document levee accreditation requirements, the City has engaged Professional Engineers to perform engineering analyses outlined by the criteria. The analyses have indicated that sections of the levee system do not comply with FEMA accreditation and current design standards.

In addition to the accreditation analysis, the City endured record Missouri River flooding in 2011 where the water levels exceeded the 100-year flood elevation for a duration of approximately 90 days. During this flood event the U.S. Army Corps of Engineers (USACE) aided the City in their flood fight effort including approximately \$5.8 million in emergency measures and approximately \$14.6 million on post-flood rehabilitation of damaged areas.

The accreditation engineering analysis combined with observations made during the flood fight indicate that while the levees were not breached, the design safety factors were at lower than desired levels. For this reason, the Council Bluffs Flood Mitigation Project will consist of 22 unique improvements to the levee system to eliminate known deficiencies in order to meet current levee design and accreditation standards. The improvements will increase the redundancy, resiliency, and robustness of the Levee System thereby reducing the potential for catastrophic failure. These improvements will include:

- Improve levee embankment and foundation stability by installing 46 new relief wells, constructing 22,850 feet of seepage/stability berms, installing 2,900 feet of pervious toe trench, installing 2,900 feet of rock toe protection, and installing 9,000 feet of reverse filters in drainage ditches.
- Raise approximately 7.5 miles of levee embankment in certain sections along Indian Creek and Mosquito Creek in order to meet necessary freeboard requirements.
- Investigate additional flood control on Mosquito Creek to provide real flood risk reduction as well as synergizing the flood control and levee accreditation efforts.
- Improve at least 11 drainage structures including pipes, gatewells, junctions and closures due to poor condition.

In addition to these levee improvements, the Indian Creek channel upstream of the leveed section is deteriorating and requires rehabilitation and replacement. The 76 year old channel drains just over 15 square miles upstream of the City and is designed to safely convey floodwaters through critical portions of the City. The Indian Creek channel improvements include removal and replacement of open, concrete-lined channel, rehabilitation or replacement of existing bridge crossings, replacement of damaged sections of lateral pipes that outlet into the Creek, and relocation or protection of critical, at-risk utilities, as funding permits.

Refer to the Council Bluffs Flood Mitigation Project, Project Plan, Tab B for a project timeline and detailed description for each project.

B. How will the project mitigate future flooding of property that has sustained significant flood damage and is likely to sustain significant flood damage in the future? Code of Iowa, section 418.9, subsection 10, 2a Explain:

Upon completion of the Council Bluffs Flood Mitigation Project, the City's levee system will meet design criteria for accreditation and Indian Creek will continue to safely pass floodwaters.

The City of Council Bluffs is unique in that it is identified as the most at-risk community along the Missouri River in the USACE Omaha District jurisdiction which includes the Missouri River Basin covering all of Nebraska and portions of Montana, North Dakota, South Dakota, Wyoming, Colorado, Minnesota and Iowa. If the Levee System were to fail, a large portions of the City would be at-risk of loss of life and property damage. The Levee System was constructed in sections from 1946 to 1954 and provides direct flood risk reduction to approximately 64% of the Council Bluffs corporate limits, including critical facilities and residential, commercial, industrial, and public properties. Due to the characteristics of the protected area's critical facilities (municipal water and sewer system, fire stations, schools, health care facilities), 100% of the community will benefit – either directly or indirectly - from this levee project.

In addition to the levees, the Indian Creek channel serves to safely pass floodwaters through critical portions of the City. If it were to fail, a significant portion of the City will be affected including the historic downtown district and commercial center as well as other critical infrastructure and facilities.

C. How does the project address the impact of flooding both upstream and downstream from the project area? Code of Iowa, section 418.9, subsection 10, 2b Explain:

The project addresses the impact of flooding both upstream and downstream from the project area by complying with all local, state, and federal floodplain management requirements. A key component of the improvement process will be to ensure the project does not adversely impact upstream, downstream, or adjacent properties. The levee improvements are landward of the levee centerline and therefore not in the conveyance areas of the Missouri River and tributaries and will not reduce the capacity or increase flood levels. Additionally all levee improvements will be permitted by the USACE and a condition of the permits is that no adverse impacts are created.

Other areas including the Indian Creek channel project are in locations where there is regulatory 100-year floodplain. As part of development in these flood zones it is a requirement that proper floodplain management regulations be met. Additionally the City's goal is to maintain or increase flood conveyance thereby either maintaining or reducing flood levels.

D. Describe how the project conforms to any applicable floodplain ordinance and identify the ordinance. *Code of Iowa, section 418.9, subsection 10, 2b*

The project will satisfy the City's Floodplain Management Ordinance requirements as stated in Title 13 of the Municipal Code. The most pertinent element of the code is found in Section 25.210: "Flood control structures such as levees, flood walls, etc. shall provide, at a minimum, protection from a one hundred (100) year flood with a minimum of three feet of design freeboard and shall provide for adequate interior drainage. In addition, structural flood control works shall be approved by the Department of Natural Resources."

E. Describe how the project is sufficiently valuable to the economic viability of the state or is of sufficient historic value. *Code of Iowa, section 418.9, subsection 10, 2c*

If the Levee System were to fail, the City believes it would have a crippling effect on the community and would likely result in a mass exodus of residents and businesses. Such an event would be devastating to the long-term economic viability of Council Bluffs.

Recent levee evaluation analyses and the 2011 Missouri River flood event indicated that the levee system is deficient at various locations and does not meet current federal levee design criteria. If the City does not move forward with necessary improvements it will remain in a deficient state, subject to potential future performance issues that may lead to failure. The levee system and community characteristics result in the majority of the City being at risk in the event of failure. The nature of the levee system is such that if there is a failure at one location along its 28.5 mile length, a large portion of the City would be inundated by floodwaters.

In addition to real flood risk as described above, if the levee system is de-accredited, FEMA will revise the City's Flood Insurance Rate Maps (FIRM) showing the areas landward of the levee as being a Special Flood Hazard Area. Residents and businesses in designated Special Flood Hazard Areas are required by federal law to purchase costly flood insurance covering federally backed mortgages. Not only will this be a mandatory insurance requirement, but the insurance rates will be much greater than are currently available due to the existing levee protection shown.

Furthermore, these areas will be subject to building restrictions according to the floodplain management standards including elevation requirements for new and re-development. De-accreditation of the levee system will result in 9,830 residential structures and 943 non-residential structures, not currently mapped in the floodplain, being mapped in the Special Flood Hazard Area.

Preliminary analysis of potential insurance costs if the levee system was to be de-accredited indicates that flood insurance premiums in the affected area could range between \$14 million to \$23 million annually, which will be a new cost to residents and businesses. These new costs and development restrictions are expected to have devastating effects on economic development within the City and would likely cause abandonment of residential, business, and commercial structures.

The Indian Creek channel safely passes floodwaters through the historic downtown district and commercial center including critical infrastructure and facilities. Not only is the Indian Creek Channel integral to the protection of homes, businesses, and critical facilities from loss due to flooding as well as to the ongoing future development of the City, the Channel also has historical significance. The Indian Creek Channel, upon its completion in 1938, was the largest Public Works Administration undertaking in the State of Iowa and, in 2005, was determined eligible to be included in the National Register of Historic Places.

It is clear that maintaining levee accreditation along with Indian Creek channel rehabilitation is a critical project, not only for the protection the homes, businesses, and critical facilities, but also to ensure the long-term economic viability and historical preservation of the City.

F. How is this project essential to meet the necessary expenses or serious needs of the governmental entity related to the flood mitigation? *Code of Iowa, section 418.9, subsection 10, 2h Explain:*

Financial assistance through the Iowa Flood Mitigation Program is essential due to the potential impact a flood event will have on public and private investments already in place and large scale capital improvement projects currently underway. Without funding assistance from the Flood Mitigation Program, the City will likely need to delay implementation of portions of the project and/or reduce the scope of the Council Bluffs Flood Mitigation Project. The adverse effects of not receiving funding will not only result in real flood risk for the community, but it will result in the City incurring a significant amount of municipal debt to pay for the improvements. Since this debt would be backed by the full faith and credit of the City (real property), assuming a 3.5% interest rate for a 20-years bond, Council Bluffs property-owner could see a 7% increase in their property tax burden to finance the project locally (\$57 million principal plus \$24 million in interest).

G. Provide the extent of nonfinancial support committed to the project from public and nonpublic sources. *Code of Iowa, section 418.9, subsection 10, 2e*

Various letters of support from individuals, businesses, and organizations that will be directly or indirectly affected by the project are attached. These letters include Lewis Central Community School District, Methodist [Health System] Jeannie Edmondson, Council Bluffs Industrial Foundation, Treynor State Bank, HGM Associates, Pottawattamie County Development Corporation, Snyder & Associates, Council Bluffs Community School District, SilverStone Group, Council Bluffs Community Education Foundation, and the Council Bluffs Chamber of Commerce.

H. Describe the coordination with other watershed management measures as applicable. *Code of Iowa, section 418.9, subsection 10, 2f*

This project has been, and will be coordinated with multiple watershed planning initiatives, including: Council Bluffs Pollutant Load Management Study, Council Bluffs Water Quality Management Plan, Missouri River Flood Task Force, Levee System Certification Feasibility Evaluation, Indian Creek Historic Documentation Evaluation, Mid-City Project Area Brownfield Plan, Council Bluffs Riverfront District Plan, and the Council Bluffs Pre-Disaster Mitigation Plan.

I. Describe how this project is consistent with applicable comprehensive, countywide emergency operations plan in effect and other applicable local hazard mitigation plans. *Code of Iowa, section 418.9, subsection 10, 2g*

This project is consistent with the goals of other emergency management and hazard mitigation plans.

The Pottawattamie County Emergency Management Office is located in Council Bluffs. Its stated mission is to assure a coordinated effort involving local, state, and federal government agencies as well as volunteer organization and businesses to assist citizens and communities to prepare for, respond to, recover from, and eliminate or reduce the effects of natural, civil, and technological emergencies and disaster. The primary goal is to prevent injuries, save lives, and reduce property damage in communities and help build sustainable communities and ensure economic opportunities for communities and citizens. Their website is <http://www.pottcounty.com/departments/emergency-management/overview/>. The City of Council Bluffs Pre-Disaster Mitigation Plan was revised in June, 2010 by the Council Bluffs Pre-Mitigation Planning Committee, Pottawattamie County Emergency Management Agency, and the Omaha-Council Bluffs Metropolitan Area Planning Agency. Goal 3, beginning on page 70 states, "Minimize the potential damage from and impact of a future flood event." Objectives of this goal include: (3.1) Monitor the banks of streams and rivers within the city, (3.2) Maintain, enforce and update zoning ordinances and floodplain ordinance as needed, (3.3) Educate residents regarding the NFIP including the availability of flood insurance and flood risk (Public Awareness Program), (3.4) Protect any building and vital facilities that are at risk from floodwaters, (3.5) Provide technical information to businesses in the floodplain that have expressed an interest in flood proofing, (3.6) Relocate critical facilities located in floodplain or other flood-prone areas, (3.7) Reestablish channel cross section and capacity reducing upstream flooding in Indian Creek, (3.8) Ensure the NFIP levee system meets minimum design, operation, and maintenance standards consistent with NFIP regulations through Flood Damage Reduction Project (FDRP) assessments and improvements, (3.9) Reduce flooding within the community through further localized storm capacity assessment and improvements, and (3.10) Protect buildings and roadway at risk from structural deficiencies of Indian Creek Channel.

J. Description of Project Location (i.e. Latitude and Longitude (minimum 6 digits after the decimal), Neighborhood, Subdivision, Geographic Boundaries, Driving Directions, etc.)

Project improvements are located throughout the entire City of Council Bluffs, as detailed in the Flood Mitigation Project Plan, Section B. See Council Bluffs Flood Mitigation Project Plan, Appendix C - Project Area Map. The actual latitude and longitude coordinates for the City of Council Bluffs is 41.2530° N, 95.8620°.

K. Number of people and properties protected as a result of the completion of the entire proposed project:

	Properties/ Facilities	People	Average Value	Total Potential Losses Mitigated
# of People		62230	\$0.00	\$0.00
# of Residential Properties	9830		\$82,400.00	\$809,992,000.00
# of Commercial Properties	943		\$706,625.00	\$666,347,375.00
# of Public Properties	130		\$2,162,895.00	\$281,176,350.00
# of Critical Facilities	55		\$10,000,000.00	\$550,000,000.00
Total Potential Losses Mitigated	10958	62230	\$12,951,920.00	\$2,307,515,725.00

K1. Description average value computation (i.e. average assessed property value in affected area, average insured value of critical facilities in affected area, average value of loss of critical service, etc.)

The average value computation were derived from the following sources:

- People - FEMA HMGP grant application guidelines allow a \$5 million value for loss of life.
- Residential and Commercial Properties - Council Bluffs Levee System: 2013 Levee Certification Feasibility Evaluation Phase 2 Report.
- Public Property - Capital Assets - Council Bluffs Audit Report (2013)
- Critical Facilities - Parcel Data, Council Bluffs Pre-Disaster Mitigation Plan, and Capital Assets - Council Bluffs Audit Report (2013). Table does not include average value for such large scale critical facilities as Council Bluffs Community Schools, Interstate Highways (I-80 and I-29), Highways (Highway 6 and 92/275), Council Bluffs Municipal Airport, Mid-American Energy Power Plant, City Hall, Pottawattamie County Courthouse, Council Bluffs/Pottawattamie County Law Enforcement Center, and Iowa Western Community College.

IV. Work Schedule

A. List the major milestones for this project.

Task	Months/Years from Award		Responsible Party
	Start	Complete	
Levee Phase 1	2015	2016	City
Levee Phase 2	2016	2017	City
Levee Phase 3	2017	2018	City
Levee Phase 4	2018	2019	City
Levee Phase 5	2019	2020	City
Levee Phase 6	2020	2021	City
Levee Phase 7	2021	2022	City
Levee Phase 8	2022	2023	City
Levee Phase 9	2023	2024	City
Levee Phase 10	2024	2025	City
Indian Creek Phase 1	2025	2026	City
Indian Creek Phase 2	2026	2027	City
Indian Creek Phase 3	2027	2028	City
Indian Creek Phase 4	2028	2029	City
Indian Creek Phase 5	2029	2030	City
Indian Creek Phase 6	2030	2031	City
Indian Creek Phase 7	2031	2032	City
Indian Creek Phase 8	2032	2033	City
Indian Creek Phase 9	2033	2034	City
Indian Creek Phase 10	2034	2035	City
Total Project Duration:	20 Years		

Yes
No

V. Certifications

To the best of my knowledge and belief, I certify that all data in this application packet is complete, true and correct. The governing body of the applicant has duly authorized this document and hereby applies for assistance as documented in this application. The applicant understands that the project shall not proceed until Flood Mitigation Board approval is granted.

Matthew J. Walsh
Signature of the Chief Executive Officer
Matthew J. Walsh
Name of the Chief Executive Officer
Mayor
Title
City of Council Bluffs, IA
Organization
April 23, 2014
Date
712-328-4668
Phone Number

Greg Reeder
Signature of the Authorized Representative
Greg Reeder
Name of Authorized Representative
Public Works Director
Title
City of Council Bluffs, IA
Organization
4/23/14
Date
209 Pearl Street
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