


COUNCIL COMMUNICATION

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|  | Number: | 22-012 | Meeting: | January 10, 2022 |
| | Agenda Item: | 7C | Roll Call: | 22-012 |
| | Submitted by: | Jonathan A. Gano, P.E., Public Works Director and Steven L. Naber, P.E., City Engineer | | |

AGENDA HEADING:

Ordering construction of the following: Des Moines Levee Alterations - Phase C - Receiving bids, (2-8-22), and Setting date of hearing, (3-7-22). Construction Estimate - \$14,200,000.

SYNOPSIS:

Recommend the City Council order construction of the improvement and set dates to receive bids and hold a public hearing, as required by Iowa Code, utilizing the method of financing referenced below. This public improvement project includes improvements to the levee system along the Des Moines River from the confluence of the Raccoon River to S.E. 14th Street and is part of the City's Flood Mitigation Program with the goal of mitigating flood risk and meeting the requirements for Federal Emergency Management Agency (FEMA) accreditation of the downtown levees. Improvements include earthen levee raises, gatewell structure modifications, pipe penetration improvements (sewer replacement and abandonments), and construction of seepage relief trenches to increase levee stability.

FISCAL IMPACT:

Amount: \$14,200,000 City Engineer's Estimate

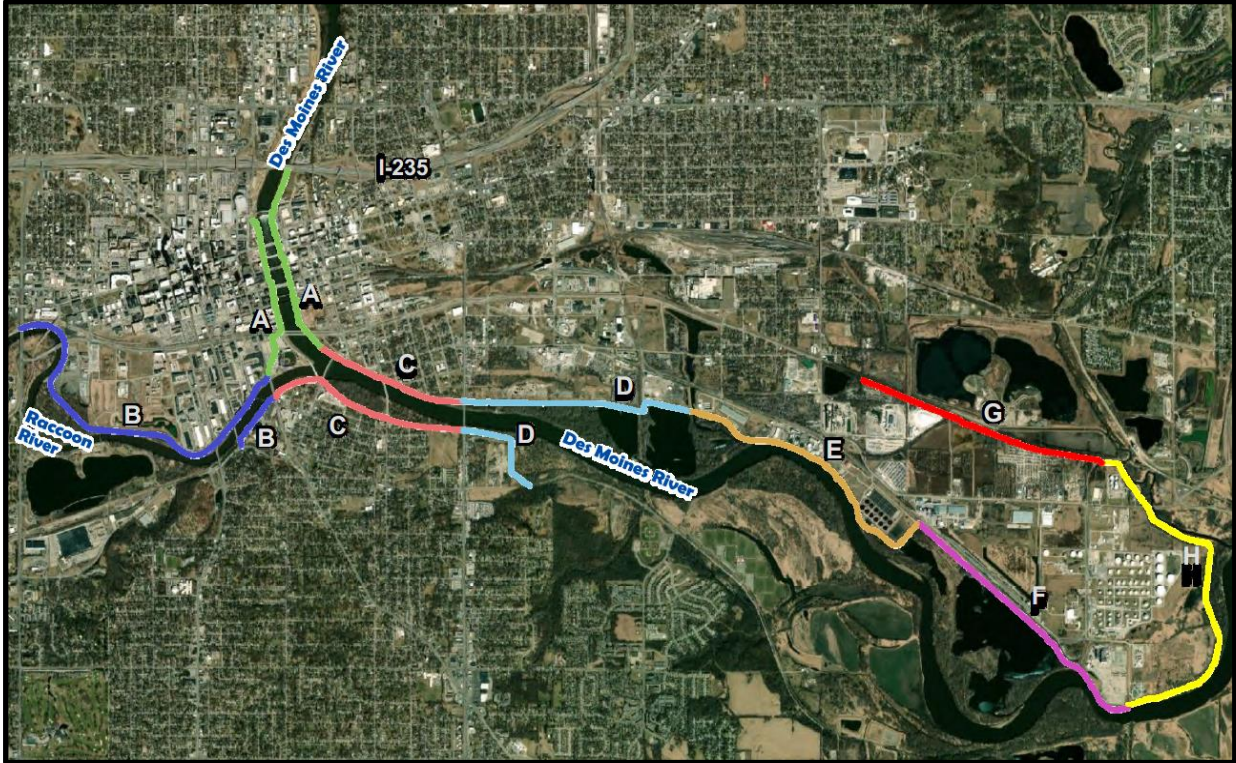
Funding Source: 2021-2022 CIP, Page 101, Flood Mitigation Improvements, SM087, Being: \$14,200,000 in Storm Water Utility Funds and Flood Mitigation Sales Tax.

ADDITIONAL INFORMATION:

- The Engineering Department has prepared plans, specifications, form of contract documents, and City Engineer's estimate for the construction of the Des Moines Levee Alterations - Phase C, Activity ID 08-2020-006. The improvement includes earthen levee raise and widening, earthwork, excavation, clearing, revetment, steel sheet piling, gatewell raise, storm sewer pipe and repair, seepage relief pipe, swing gates, articulated concrete block, utility abandonment, rain garden, Portland Cement Concrete (PCC) pavement, Hot Mix Asphalt (HMA) pavement, light pole relocation, erosion control, seeding, other incidental items and miscellaneous associated work including cleanup; all in accordance with the contract documents, including Plan File No. 638-222/388, with improvements located along the Des Moines River from the confluence of the Raccoon River to S.E. 14th Street.

- The estimated construction cost is \$14,200,000. The proposed plans, specifications, and form of contract documents are available for public inspection in the Des Moines City Engineer's Office.
- Following the 2008 Midwest flood, the United States Army Corps of Engineers (USACE) conducted the Des Moines River Regulated Flow Frequency Study (DMRRFFS) to estimate the frequency and magnitude of future reservoir outflows and downstream river flows. Completed in November 2010 and released in January 2011, the results of the DMRRFFS showed flood flow frequencies have increased over previous USACE estimates and floods like the 1993 and 2008 events are more likely to occur than previously estimated. In addition to identifying the higher risk of flooding, the DMRRFFS showed that the existing levees in downtown Des Moines do not meet the standards for FEMA accreditation of levees provided in Title 44 of the Code of Federal Regulations (44 CFR) Section 65.10 of the National Flood Insurance Program regulations impacting FEMA flood hazard mapping.
- In March 2011, the City initiated professional services to begin responding to the USACE DMRRFFS by working through the USACE Section 408 requirements to improve the levee system to satisfy FEMA accreditation requirements. The City has worked closely with the USACE Rock Island District staff to prepare a Section 408 Concept Submittal to improve the levee system to meet accreditation requirements with City and Iowa Flood Mitigation Program funding. The Section 408 Concept Submittal was submitted to the USACE in May 2017. Individual (detailed) Section 408 submittals are required for individual projects.
- Phase 1 Analyses were conducted to document identified deficiencies relative to 44 CFR 65.10 accreditation requirements. The deficiencies will be addressed by various projects that include levee raises, modification of gatewell and closure structures, pump station modifications, installation of embankment protection, and embankment and foundation stability mitigating features such as cutoff trenches or seepage berms. In accordance with the Flood Mitigation Program Agreement (RC 15-1094, 6/22/2015), the project completion date is December 31, 2024. As projects move forward, the terms of the agreement will be reconciled to match project schedules. The projects will be constructed in multiple phases, generally from upstream to downstream along the system and the phases are identified as Phases A thru H.
- Phase A, which incorporates the upstream reaches of the DM-I and DM-II levee systems along the Des Moines River upstream of the confluence with the Raccoon River, was completed in 2021.
- Phase B, which incorporates reaches of the DM-II and DM-III levee systems along the Raccoon River upstream of SW 3rd Street, will be under construction starting in 2022.
- Phase C incorporates the downstream reaches of the DM-I and DM-III levee systems along the Des Moines River from approximately the confluence with Raccoon River to S.E. 14th Street. Phase C levee system improvements include earthen levee raises, gatewell structure modifications, pipe penetration improvements (sewer replacement and abandonments), and construction of seepage relief trenches to increase levee stability. Construction of this Phase C public improvement project is anticipated to begin in spring 2022 and be completed at the end of 2023.

- Phases D and E are currently anticipated to be under construction from 2023-2024 and 2024-2025, respectively.
- Phases F, G and H are currently anticipated to be under construction from 2026-2027, 2024-2025 and 2026-2027, respectively.



- The design and construction staging of this project has been coordinated with the Iowa Confluence (ICON) Water Trails proposed improvements at the Scott Avenue Dam.
- The ICON Water Trails project and Phases B and C of the levee system improvements will require closures of the John Pat Dorrian Trail, Carl Voss Trail, and Meredith Trail during construction and trail detours are to be posted. The John Pat Dorrian Trail between Scott Avenue and S.E. 14th Street is anticipated to be closed for the majority of 2022 during construction of the ICON Water Trails project and Phase C levee system improvements. The Meredith Trail between S.W. 3rd Street and Scott Avenue and the Carl Voss Trail between Scott Avenue and S.E. 14th Street are anticipated to be closed the majority of 2023 during construction of the ICON Water Trails project and Phases B and C levee system improvements.
- A virtual public meeting was held using Zoom on September 30, 2021, to present the Phase B and C levee system improvement projects and the anticipated construction staging.

PREVIOUS COUNCIL ACTION(S):

Date: November 9, 2020

Roll Call Number: [20-1756](#)

Action: [Authorization](#) to proceed with acquisition of the necessary property interests for the Des Moines River Levee Alterations – Phase B and C Project. ([Council Communication No. 20-485](#))
Moved by Boesen to adopt. Motion Carried 7-0.

BOARD/COMMISSION ACTION(S): NONE

ANTICIPATED ACTIONS AND FUTURE COMMITMENTS:

Anticipated actions include public hearing, receive and file bids, designate lowest bidder, and approve contract and bond; also, partial payments to the contractor and final acceptance of work.

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