FEMA Flood Mitigation Projects

Alton Riverfront Advisory Commision Presentation
October 29, 2024

SMS ENGINEERS

AGENDA

- Overview
- Impacted Areas
- Discussion of Alton FEMA Flood Mitigation Projects
  - Chessen Lane Reconstruction
  - Subsurface Sewer Improvements
  - Downtown Flood Wall

OVERVIEW

High Water Events - The increasing recurrence and duration of high-water events has adversely impacted the City of Alton, specifically in the downtown central business district and industrial corridor creating costly business disruptions and draining local resources to address flooding and recovery efforts.

LOCATIONS

Downtown Project Area

Industrial Corridor Project Area

PROPOSED FLOOD MITIGATION PROJECTS

- Chessen Lane Reconstruction
- Subsurface Sewer Improvements
- Downtown Flood Wall

CHESSEN LANE RECONSTRUCTION

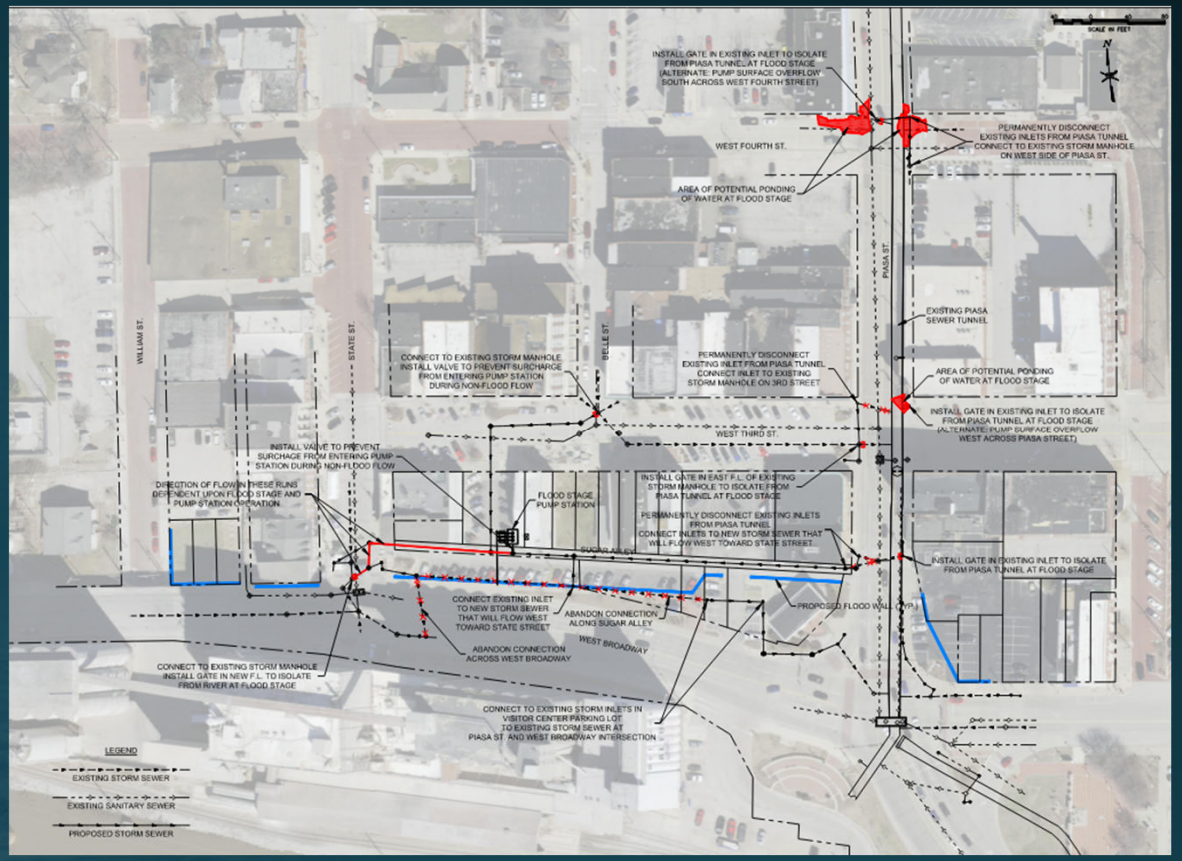
Chessen Lane Reconstruction – Perform ditching, replace culverts and reconstruct roadway to the industrial area improving access for Alton Steel, Azcon, Eagle Tubular, National Vinegar and the only access to Illinois American Water's Wastewater Treatment Facility. (Estimated Cost = $840,000.

CHESSEN LANE RECONSTRUCTION

SUBSURFACE SEWER IMPROVEMENTS

Subsurface Sewer Improvements – Includes the construction of storm sewer gates to isolate downtown sewers from the Piasa Tunnel and W. Broadway storm sewer system. In addition, the project includes the construction of a storm water pump station. This work will isolate the gravity storm sewers from backup associated with rising flood waters. (Estimated Cost = $1,550,000)

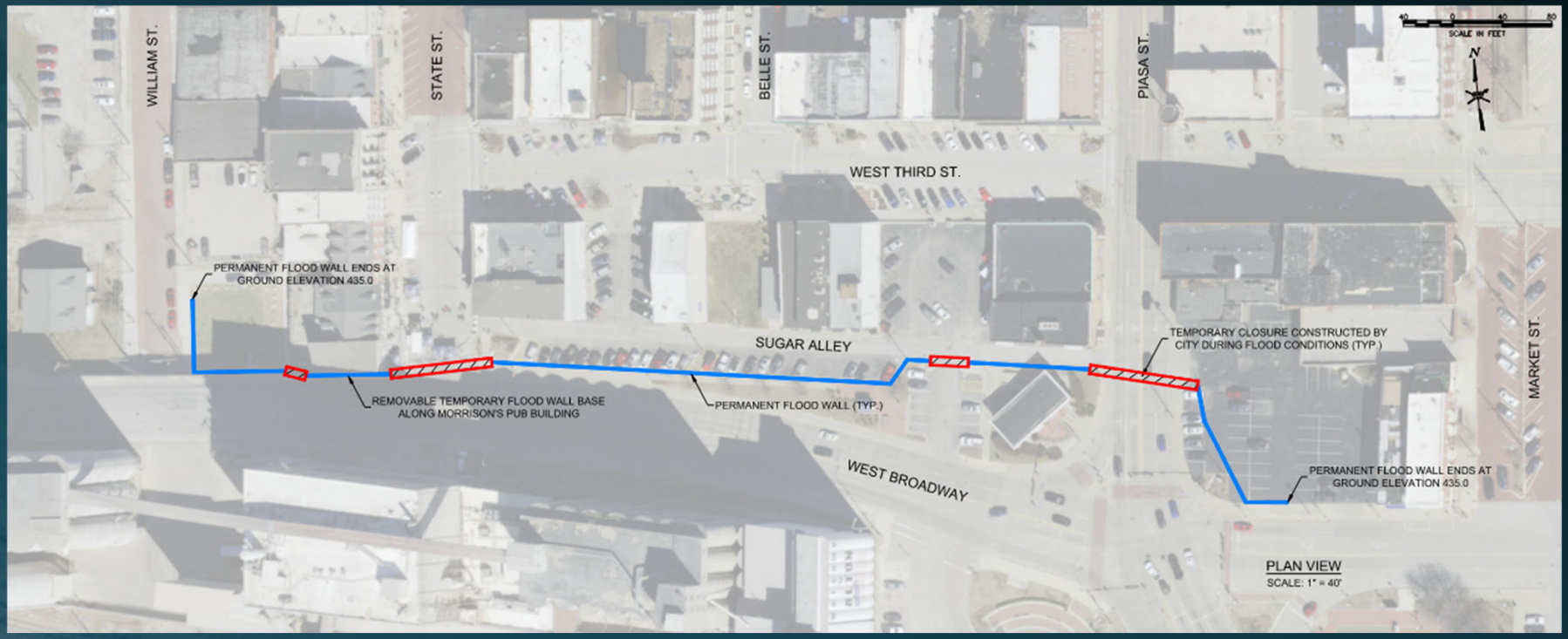
SUBSURFACE SEWER IMPROVEMENTS



DOWNTOWN FLOOD WALL

Downtown Flood Wall – The proposed flood wall will consist of a cast-in-place concrete wall on a concrete/grout foundation. The concrete wall will be constructed to accommodate a temporary flood plank wall that can be deployed during high water conditions to protect against the 100-Year or 1% AEP flood elevation. (Estimated Cost = $4,150,000)

DOWNTOWN FLOOD WALL

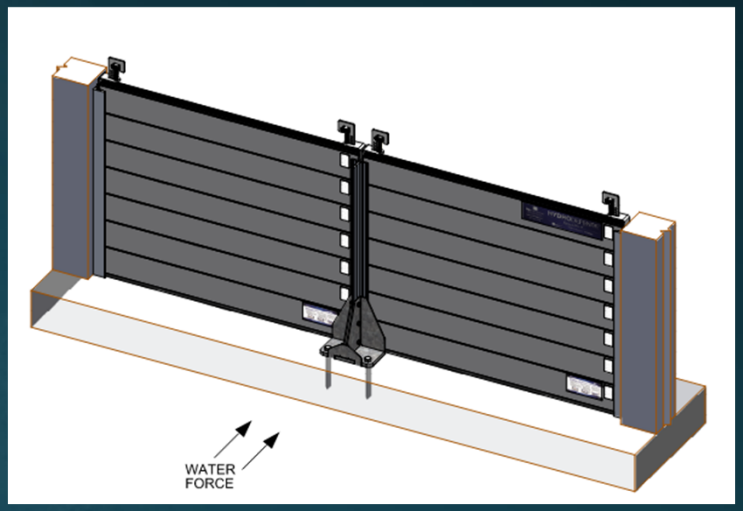


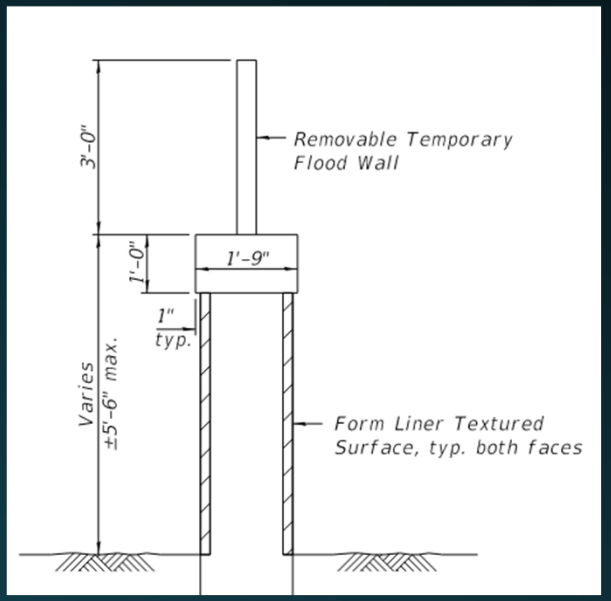
The downtown floodwall would extend from William St. easterly past Piasa St. with openings for pedestrian/vehicular traffic.

DOWNTOWN FLOOD WALL

The proposed wall would be of a hybrid design. The concrete wall will be constructed to accommodate a temporary flood plank wall that can be deployed during high water events.

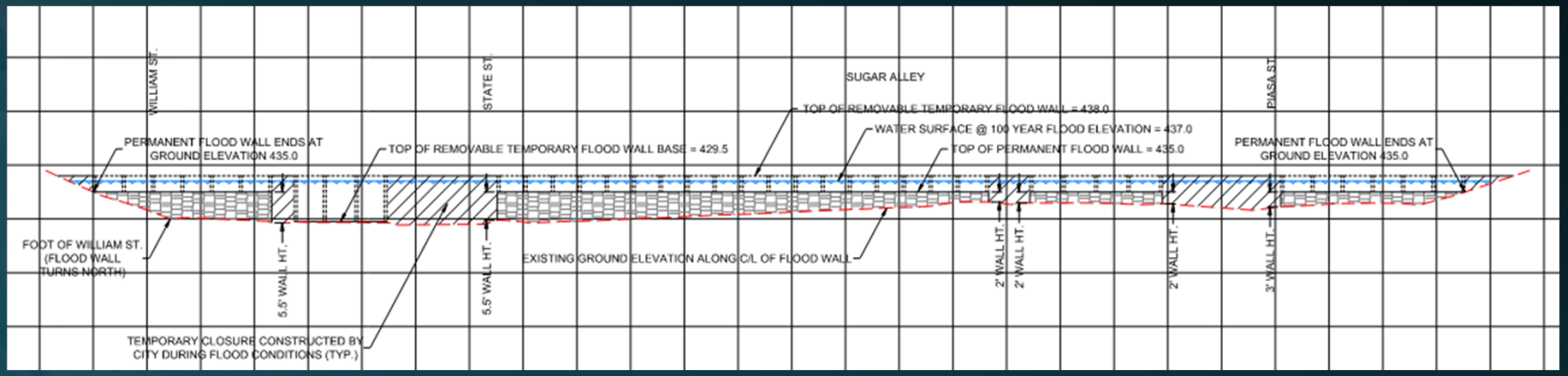
DOWNTOWN FLOOD WALL





The proposed wall would be of a hybrid design. The concrete wall will be constructed to accommodate a temporary flood plank wall (Hydrostatic + Hydrodynamic + Impact) that can be deployed during high water events. Form liner texture on both faces of the wall to be contextually consistent with the City environs. In addition, decorative pilasters will be constructed along the length of the wall.

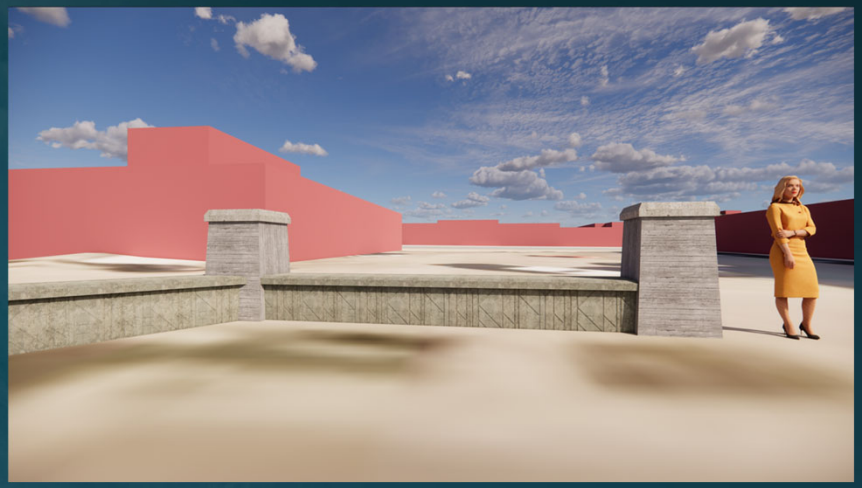
DOWNTOWN FLOOD WALL



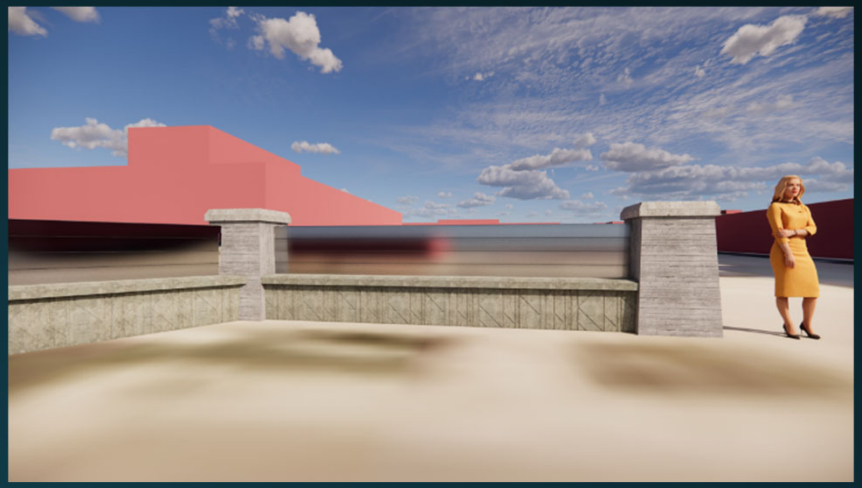
The elevation of the top of the concrete floodwall is 435.0. This results in a wall that varies in height from approximately 2’ up to approximately 5.5’. The flood plank system would extend flood protection up to elevation 438.0 (1’ above the 100-year or 1% AEP condition.)

DOWNTOWN FLOOD WALL

Opening at Sugar Alley



Normal Conditions

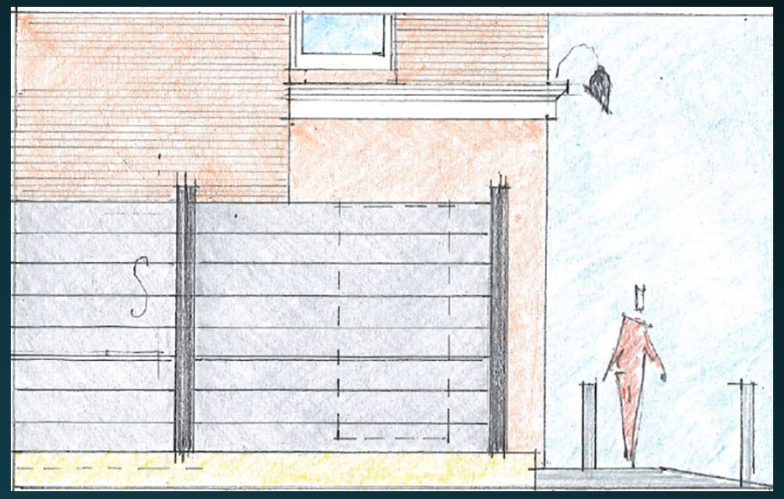


Flood Planking Deployed

The proposed wall would be of a hybrid design. The concrete wall will be constructed to accommodate a temporary flood plank wall that can be deployed during high water events.

DOWNTOWN FLOOD WALL

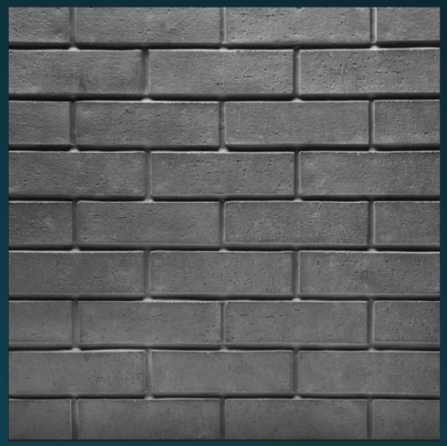
Normal Conditions



Flood Planking Deployed

There is one area – due to site constraints – where a full height flood plank wall would be utilized during flood conditions. A subgrade foundation would be constructed to receive a heavy-duty flood plank wall.

DOWNTOWN FLOOD WALL



Wall Finishes – A multitude of options exist for form lined concrete finishes.

DOWNTOWN FLOOD WALL

Schedule:

- Design Completion
  - January, 2025
- Permit Submittals/Acquisition
  - March, 2025
- Bidding Process
  - February, 2025
- Construction
  - October, 2025

DOWNTOWN FLOOD WALL

- Closing (Run Simulations)

DOWNTOWN FLOOD WALL

DOWNTOWN FLOOD WALL