



City Infrastructure & Recent Storm Events: Combined Sewers & CSOs

Kevin Kothe, P.E., Director of Public Works
City Council Meeting: August 9, 2021



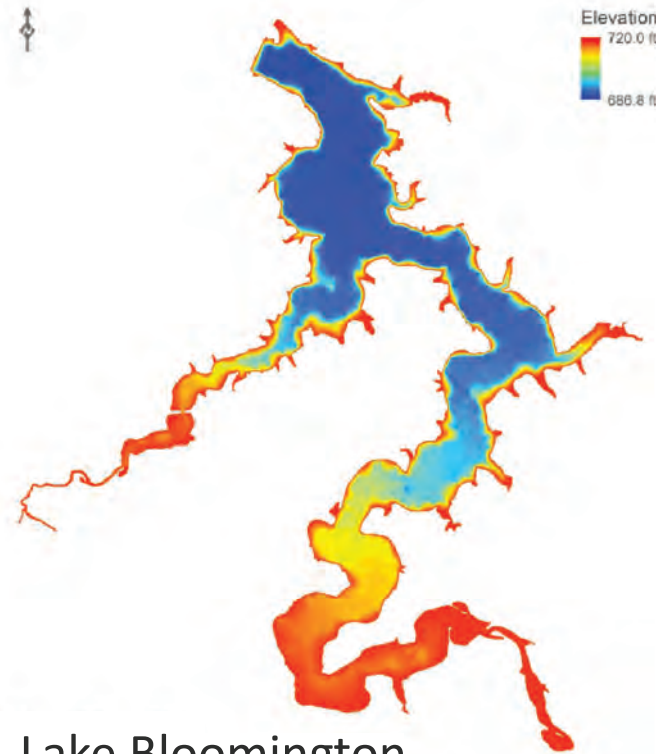
Quick Facts

- The late June storms were extraordinary
 - Rainfall in two days was up to 14 inches in an area with an annual average rainfall of 39 inches
- Infrastructure improvements and code-required detention has helped reduce flooding impacts along creeks
 - Advocate BroMenn Hospital and some of the IWU athletic area would have seen more surface flooding if not for changes to Sugar Creek drainage shed upstream

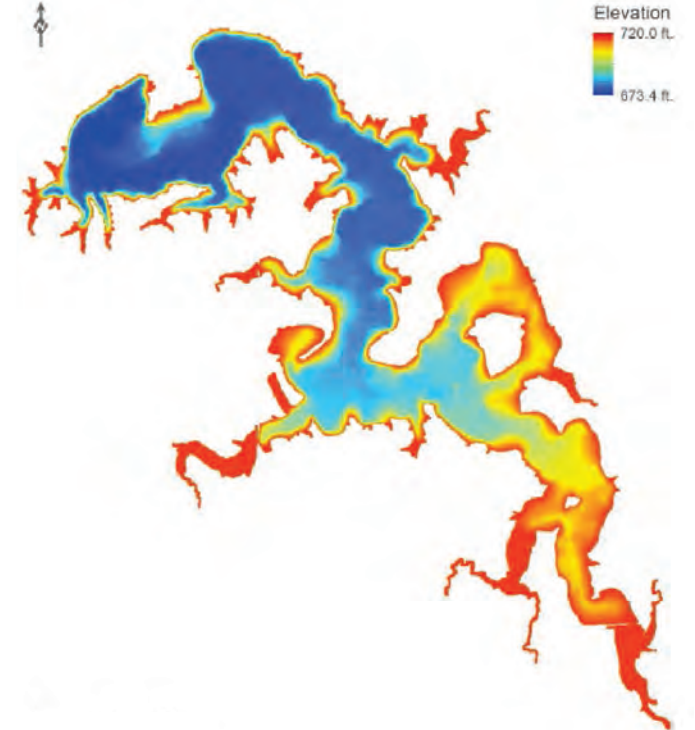


Impacts of This Much Rain

- 6 inches of rainfall across the 27.3 square miles of the City's corporate limits on frozen or saturated ground generates 8,736 acre-ft of run-off – enough to fill Lake Bloomington from empty.
- 11 inches of rainfall would fill Evergreen Lake.



Lake Bloomington
- 635 surface acres
- 8,760 acre-ft storage
- 2.85 billion gallons



Evergreen lake
- 900 surface acres
- 15,480 acre-ft storage
- 5.04 billion gallons



Lake Bloomington Facing South from WTP



Evergreen Lake Facing West

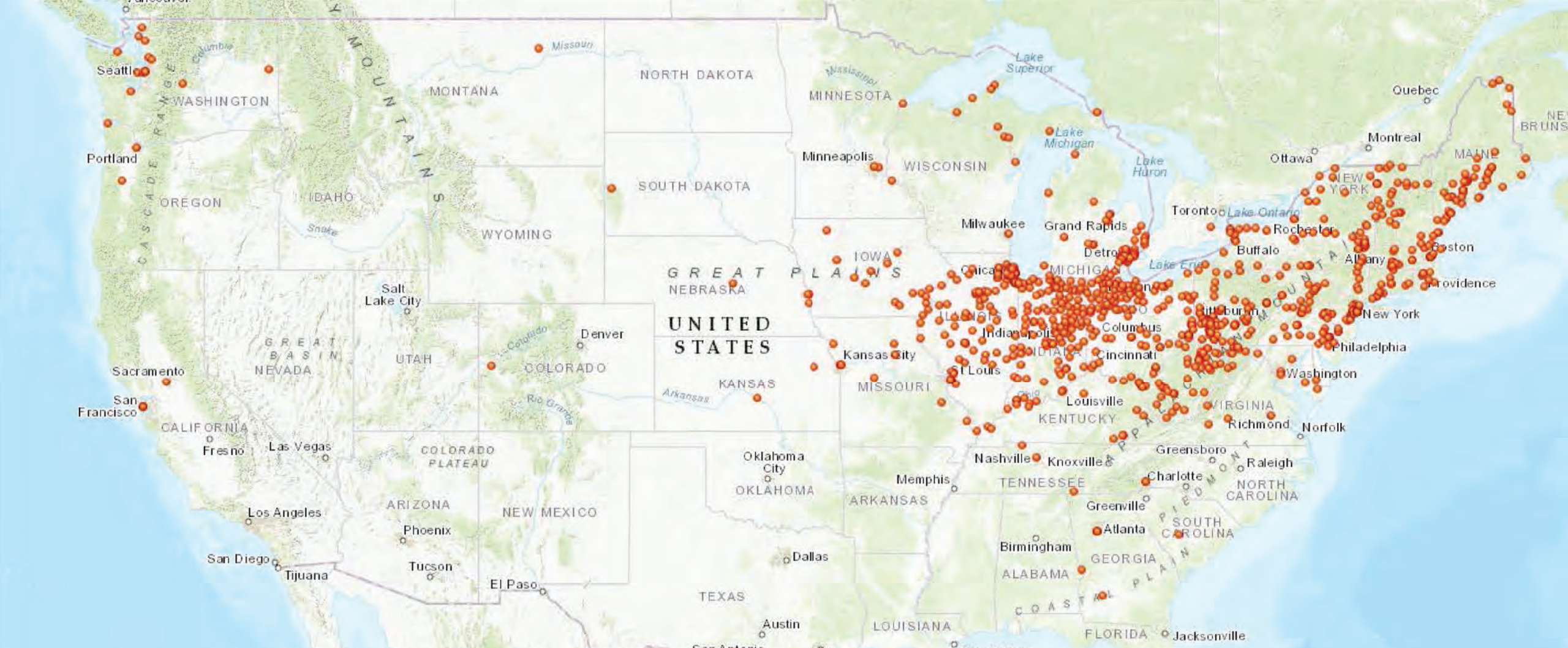


Lake Bloomington Facing North



Lake Bloomington Facing East

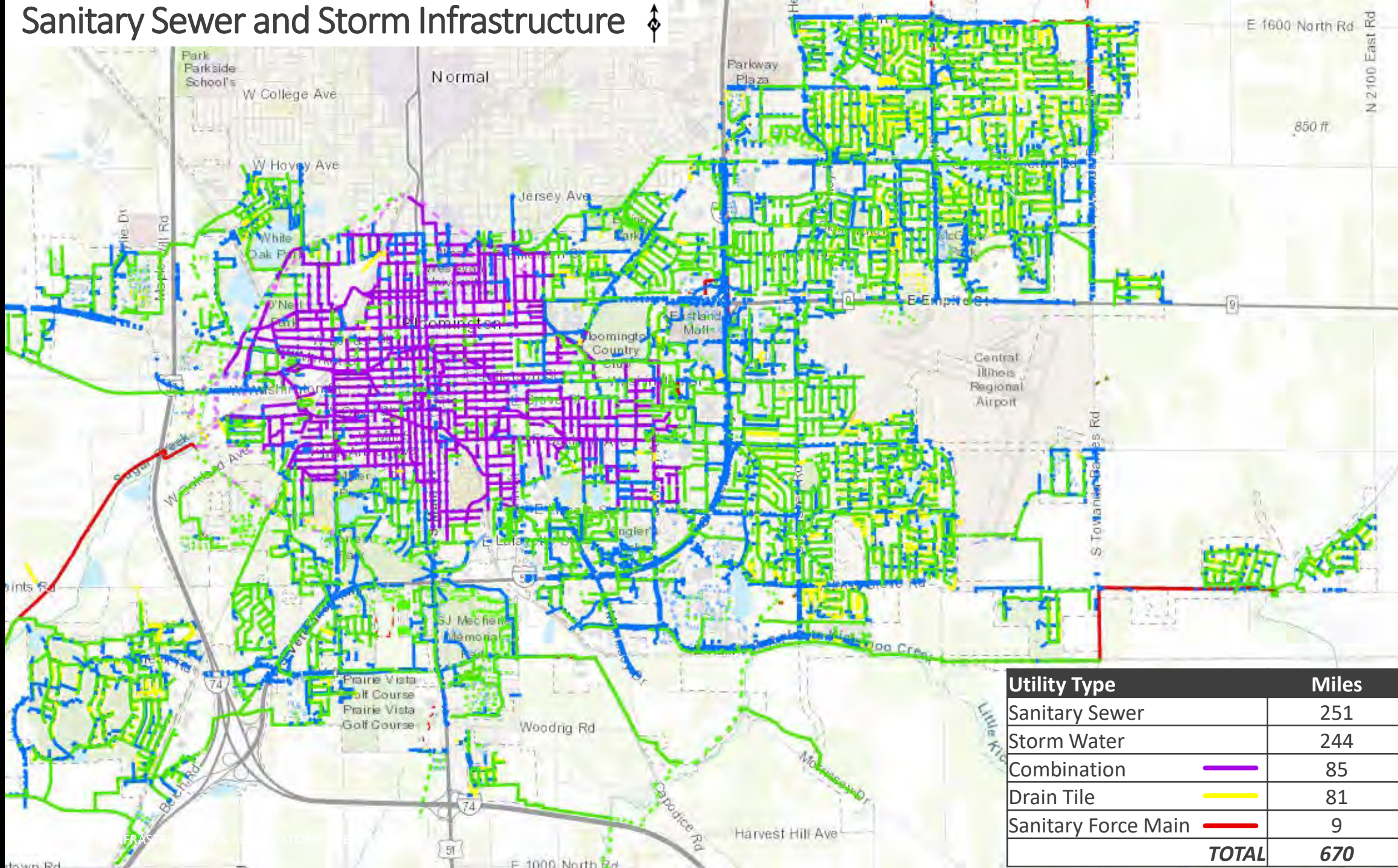




Combined sewers are nationwide, especially in the Midwest and Northeast
746 communities in U.S., and more than 100 communities in Illinois
9,348 combined sewer outfalls regulated by 828 permits in the U.S.



Sanitary Sewer and Storm Infrastructure



Utility Type	Miles
Sanitary Sewer	251
Storm Water	244
Combination	85
Drain Tile	81
Sanitary Force Main	9
TOTAL	670

Combined Sewer Overflow System



- What is a CSO – Combined Sewer Overflow and what does one look like?
- This is a picture of Locust CSO that will be eliminated at the end of the project
- Remaining CSO locations:
 - Locust/Colton
 - Maizefield



COLTON

LOCUST

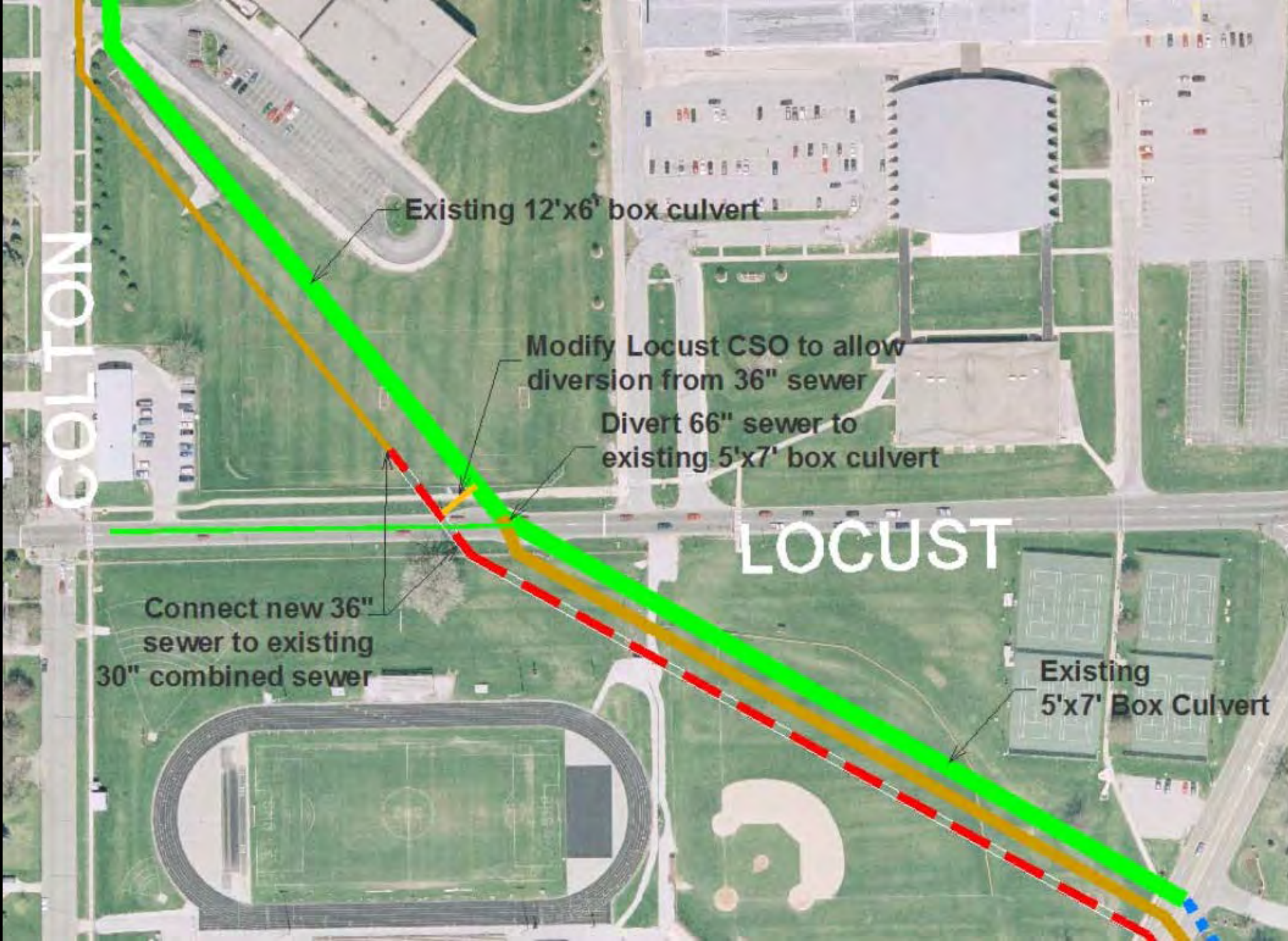
Existing 12'x6' box culvert

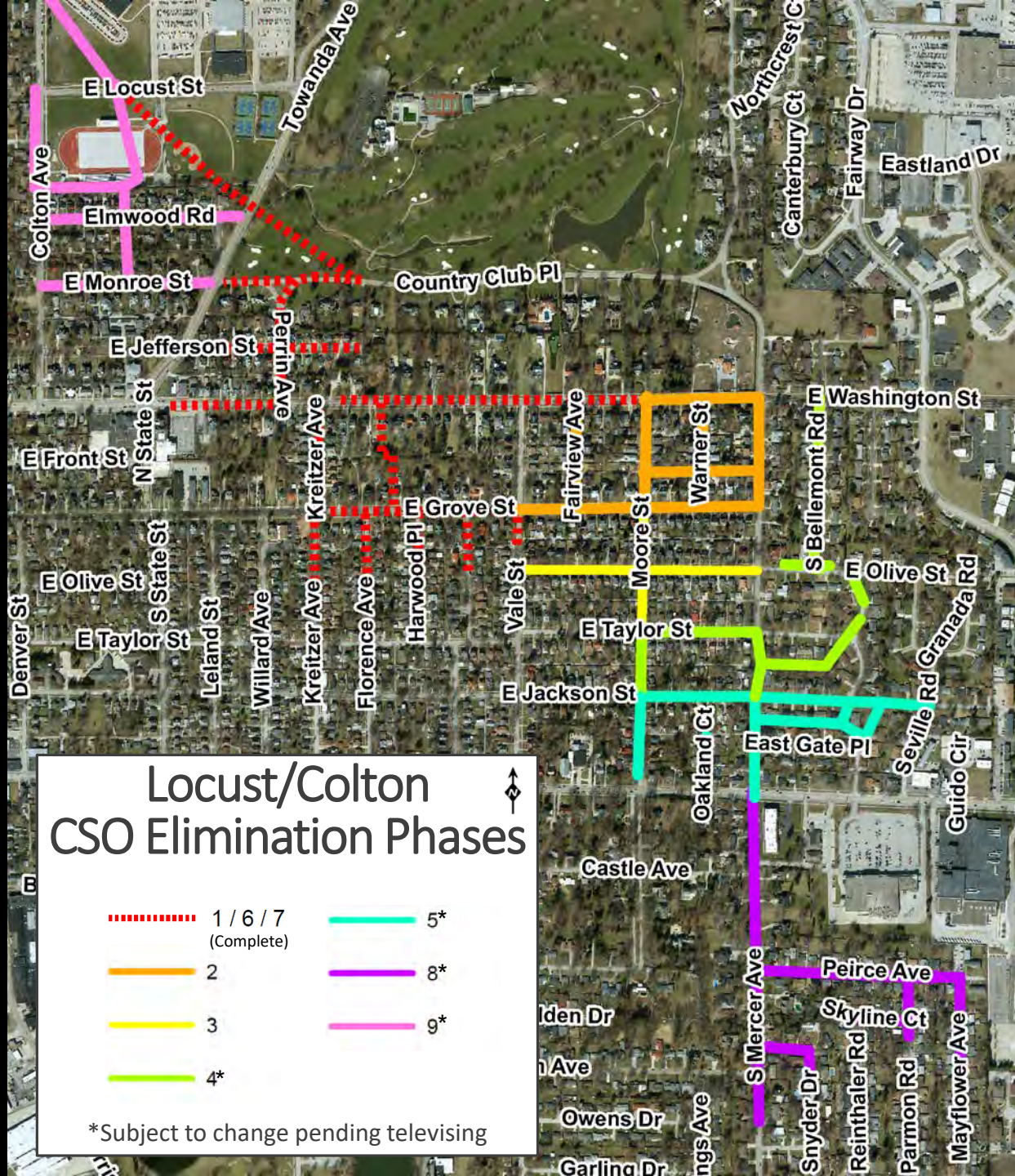
Modify Locust CSO to allow diversion from 36" sewer

Divert 66" sewer to existing 5'x7' box culvert

Connect new 36" sewer to existing 30" combined sewer

Existing 5'x7' Box Culvert





Locust/Colton CSO Elimination Phases



1 / 6 / 7
(Complete)

5*

2

8*

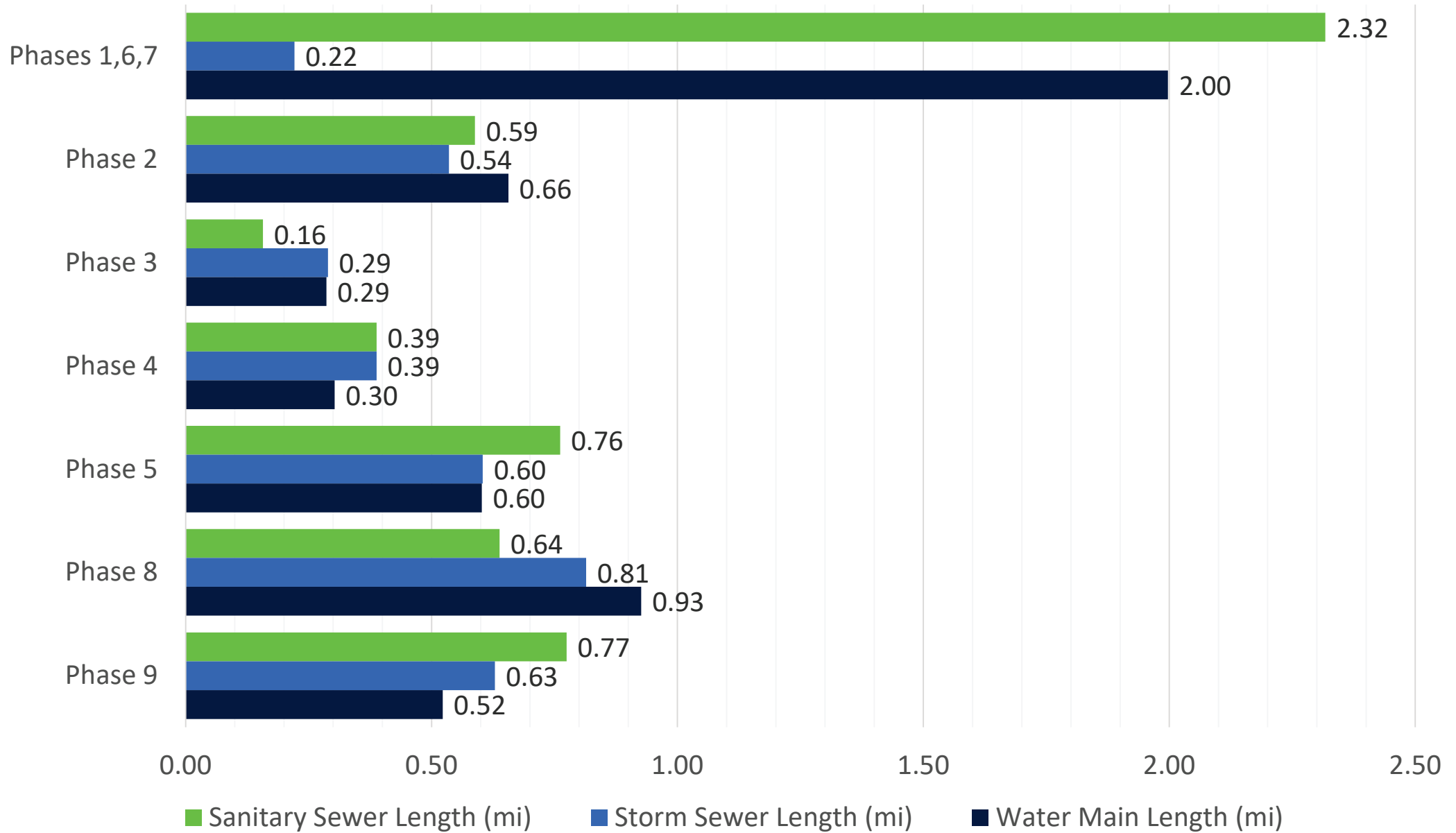
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9*

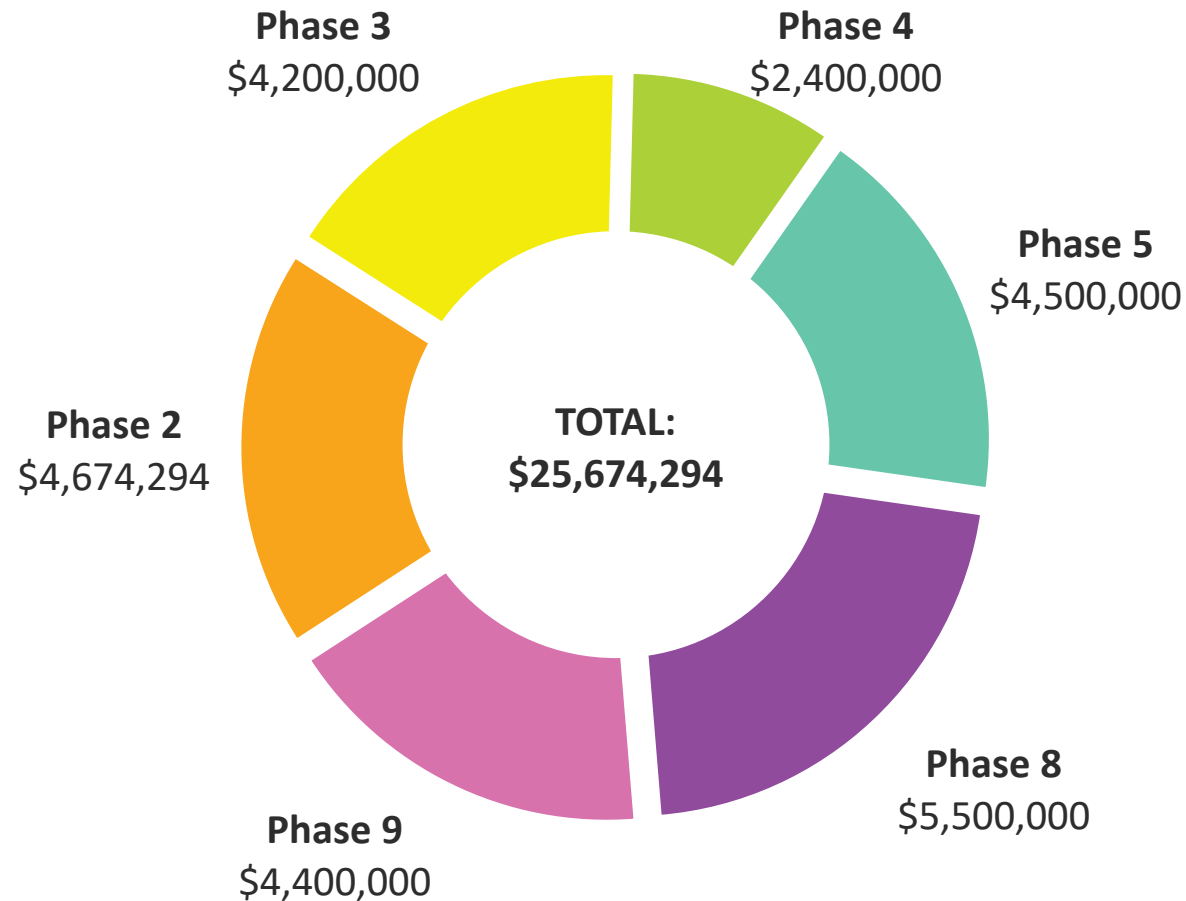
4*

*Subject to change pending televising

Pipe Lengths for Phases of Locust Colton CSO Elimination



Estimated Costs for Remaining Phases of Locust/Colton CSO Elimination

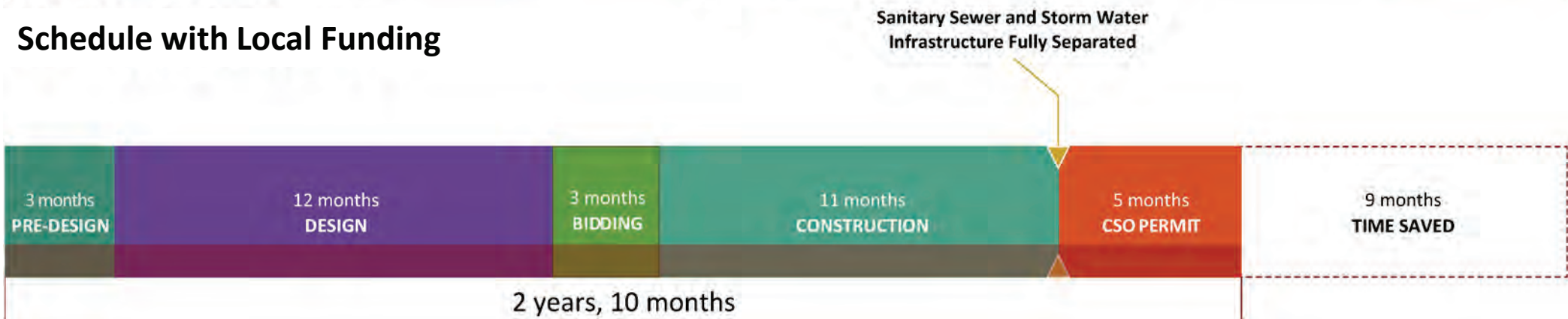


Completing a Single Phase

Schedule with IEPA Loan Funding

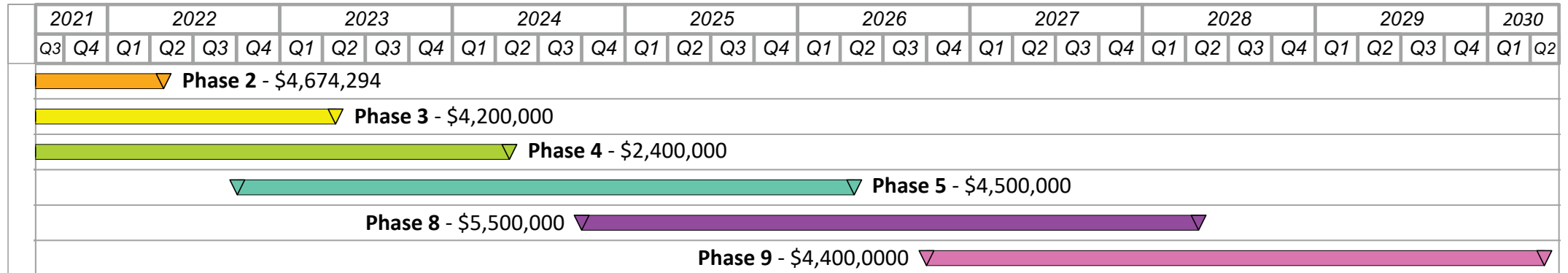


Schedule with Local Funding

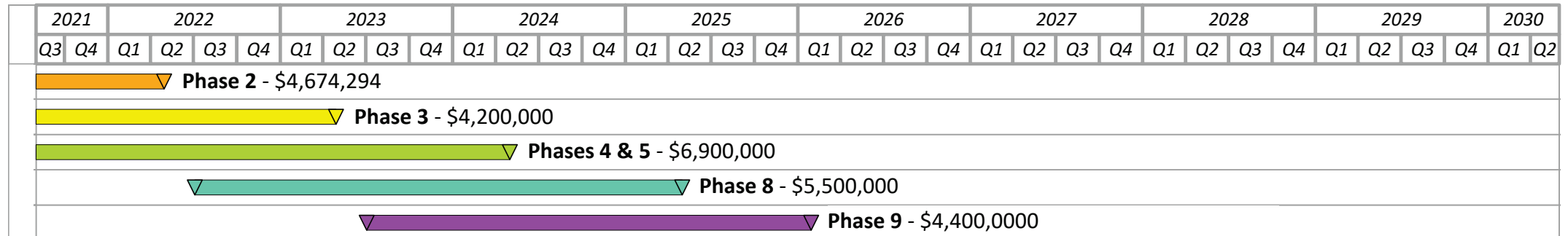


Locust/Colton CSO Elimination All Phases Schedule

Schedule with IEPA Loan Funding (current schedule)



Possible Schedule with Local Funding



Questions & Discussion

