



WESTMINSTER
COLORADO

**Big Dry Creek Sewer Basin
City Council Update
March 4, 2019**

Kent Brugler, Senior Engineer, PWU
Dave Loseman, City Engineer, CD
John Burke, Downtown Westminster Development and
Construction Manager, ED

Agenda

- I. Pre-design Project Team
- II. Recommendation
- III. Why was the Moratorium Necessary?
- IV. Overview of the Basins and BDC Interceptor System
- V. Accomplishments
- VI. Early Actions
- VII. Current Actions and Next Steps
- VIII. Q & A

I. Key Project Team Members

Public Works and Utilities

Max Kirschbaum
Kent Brugler
Stephen Gay
Ceila Rethamel
Sarah Borgers

City Attorney's Office

David Frankel
Kristin Decker
Mathew Munch

HDR Engineering, Inc.

Economic Development

John Hall
John Burke
Chase Evans
Jenni Grafton

Community Development

Dave Downing
Dave Loseman
Sean McCartney
Andrew Spurgin
Juan Sabogal

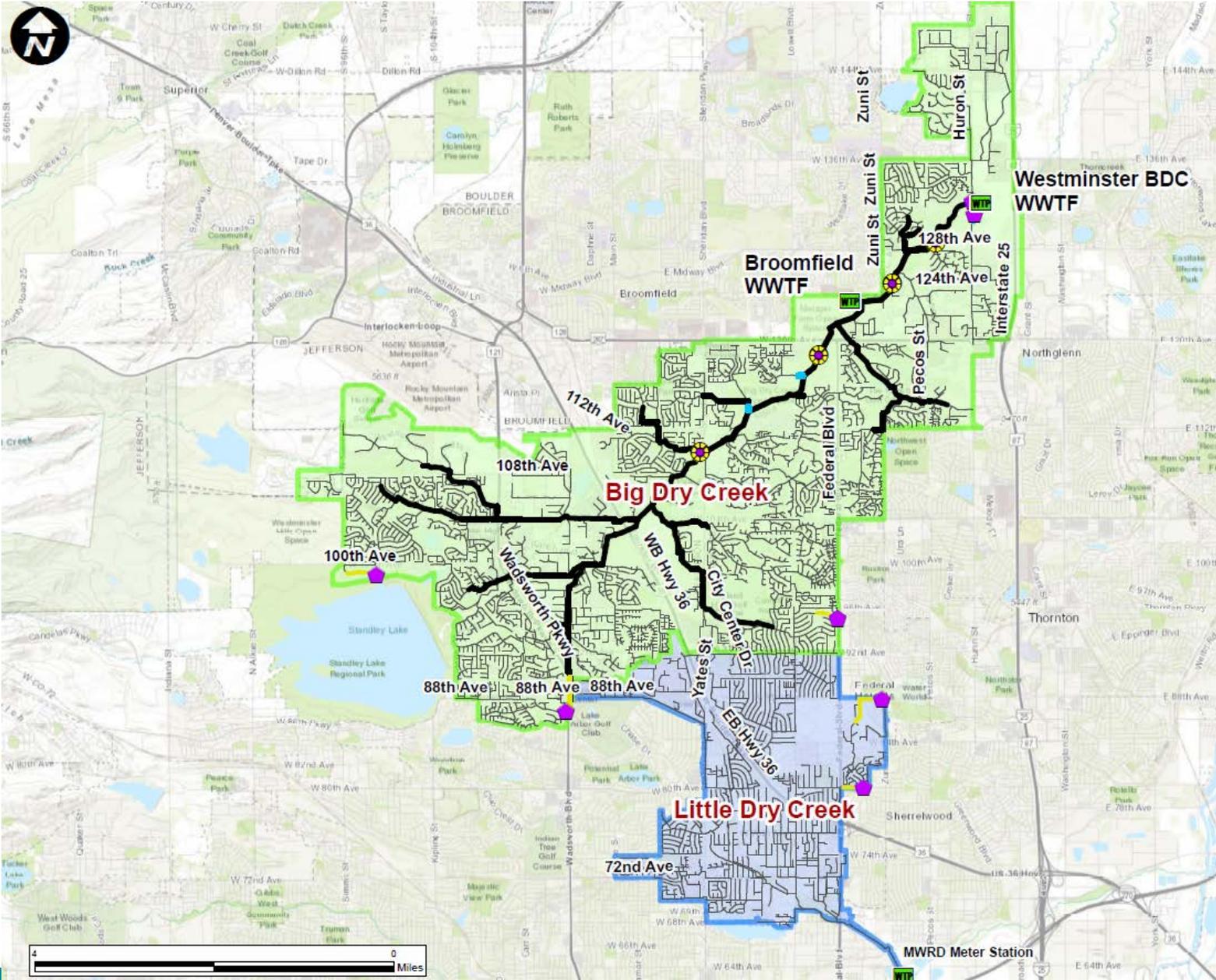
II. Recommendation

Remove the Development Application moratorium on April 29, 2019 at which time certain improvements to the interceptor system and the Pre-design Study will be completed

III. Why Was The Moratorium Necessary?

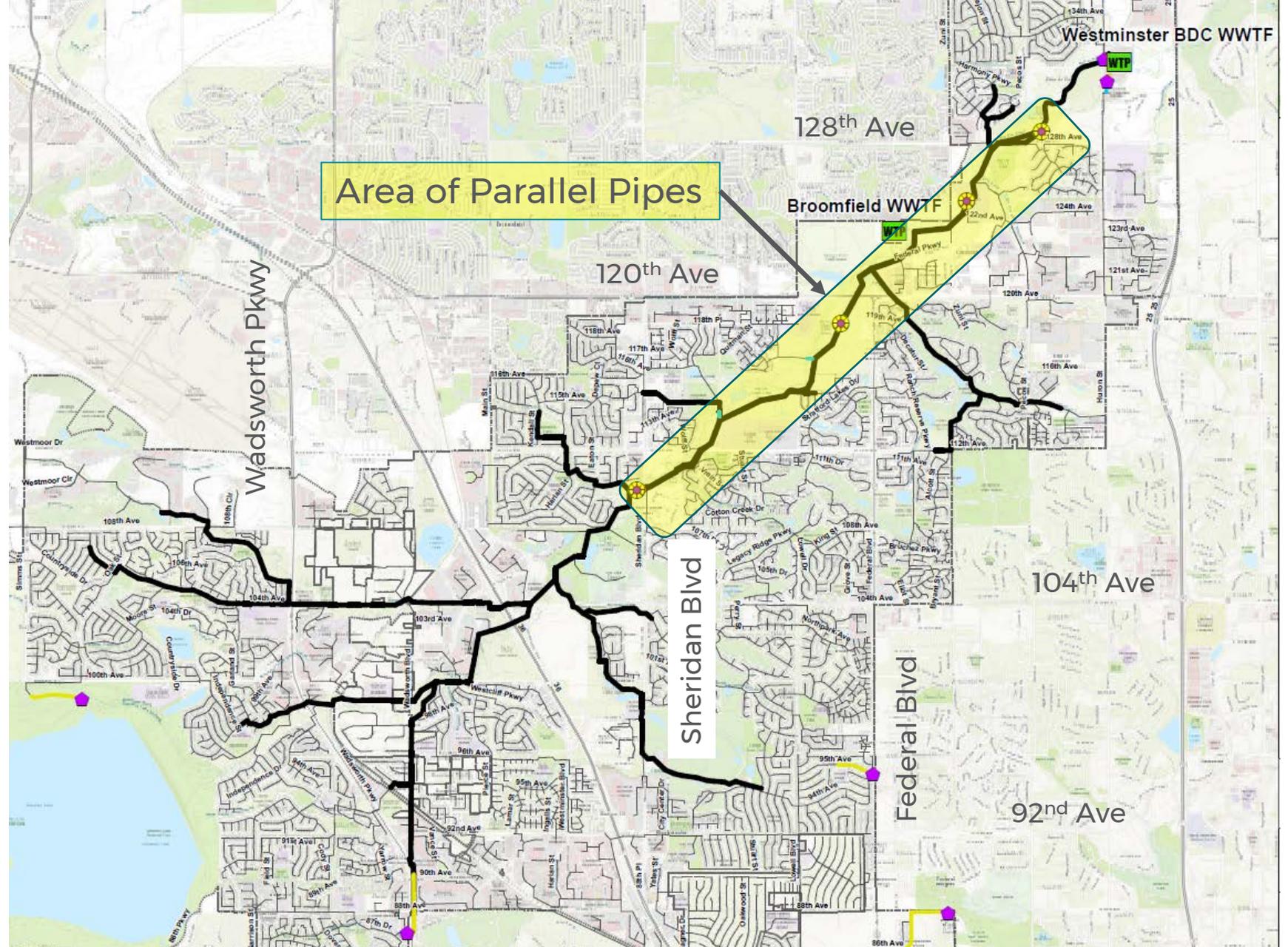
- Preliminary modeling indicated high risk of manhole overflows
- Observed full pipe flows and evidence of manhole surcharging
- Public Works needed time to more accurately assess interceptor capacity, the risks of a sanitary sewer overflow and potential solutions

IV. Overview of the Basins



IV. Overview of the BDCIS

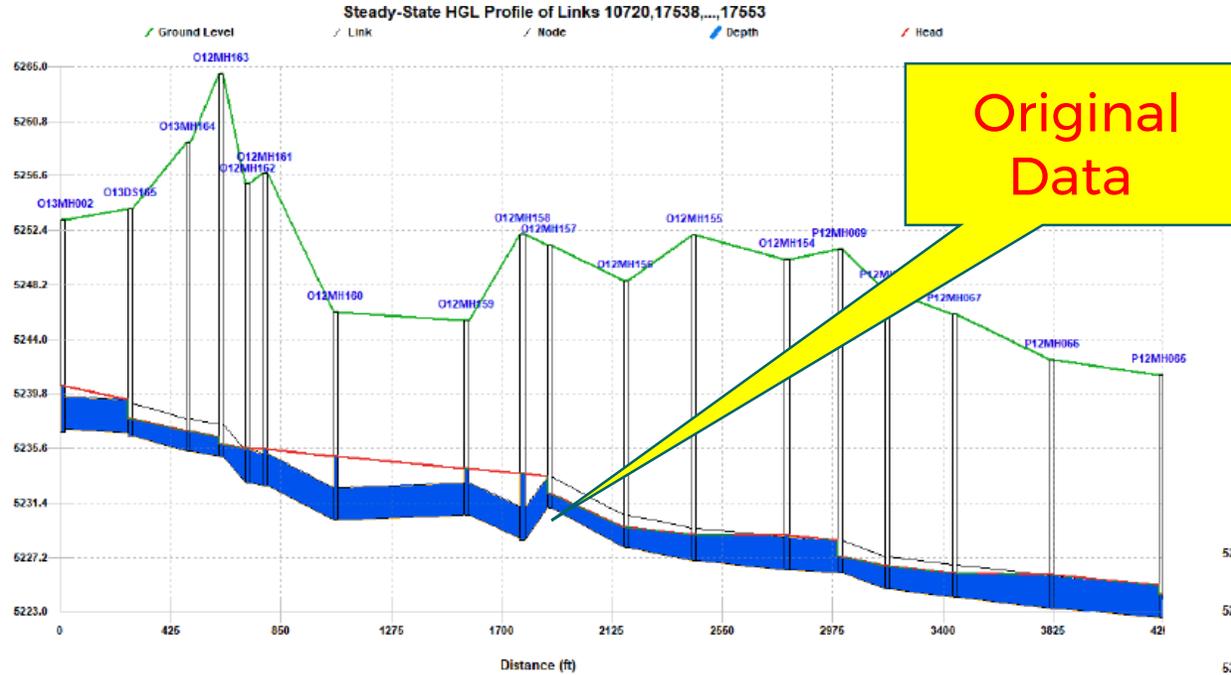
- 22 Miles of Pipe 15"-54'
- 530 Manholes



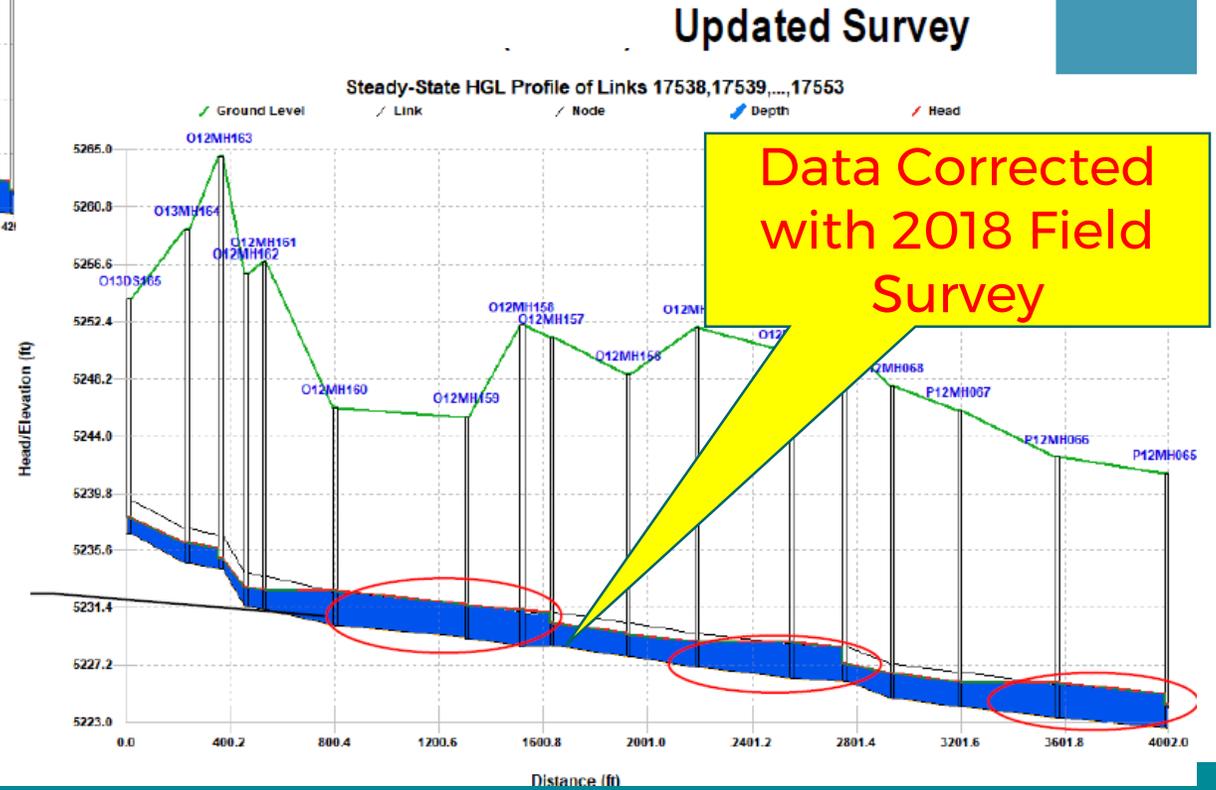
V. Accomplishments (1 of 3)

- Scoped & negotiated \$1.2M Engineering Services contract
- Completed a detailed field survey of 22 miles of pipeline and 515 manholes and structures

Better Data = Better Hydraulic Model

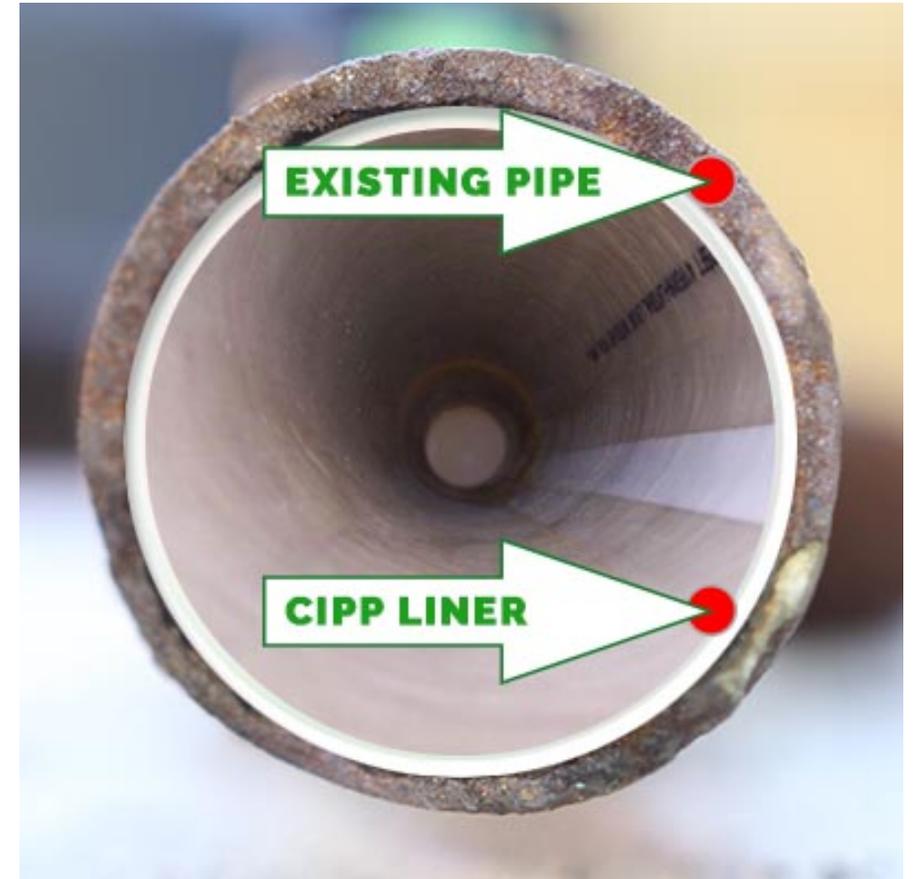


Original Survey



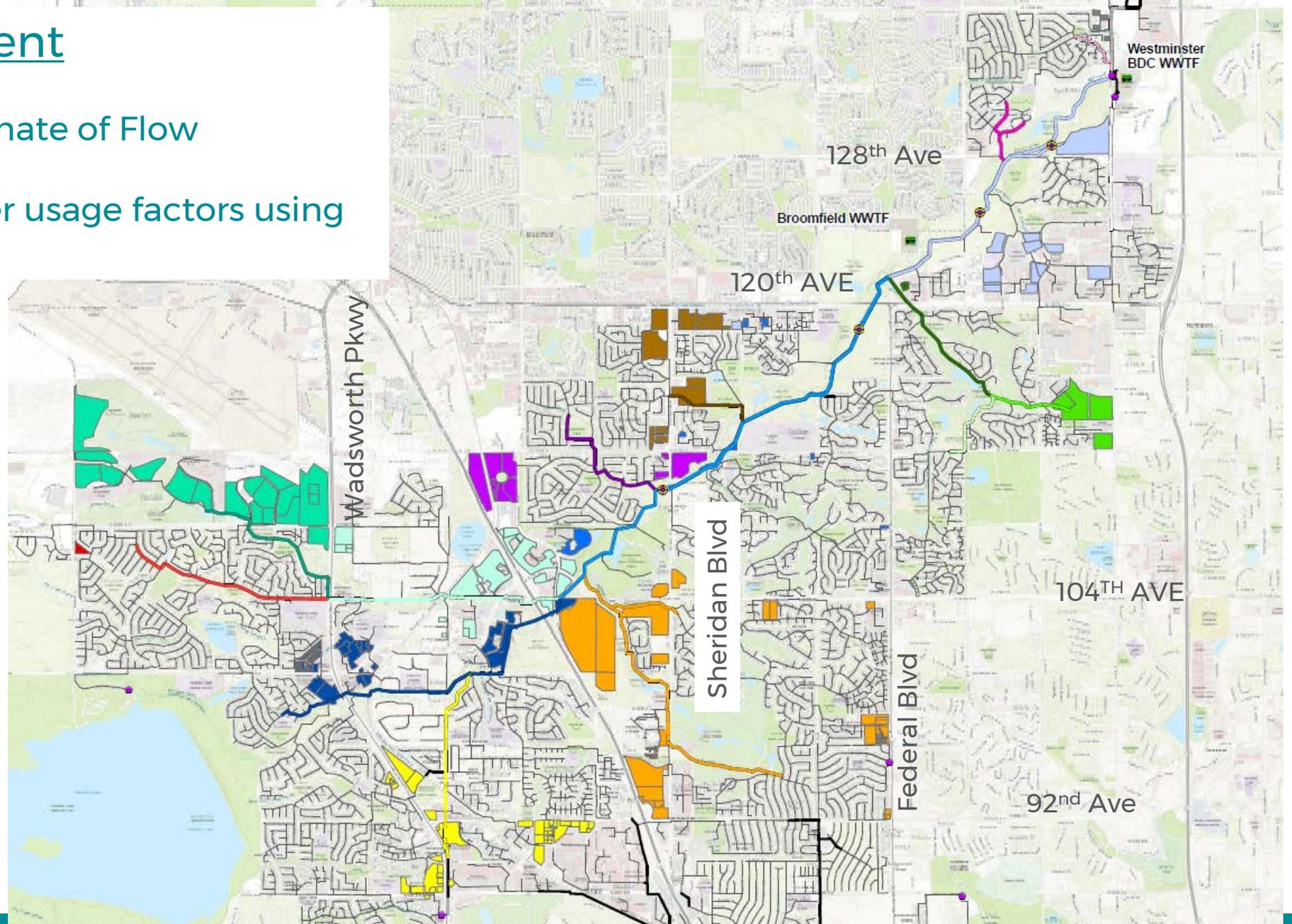
V. Accomplishments (2 of 3)

- Identified short-term improvements to the existing pipeline
- Tracked added flows from development applications
- Defined future development scenarios



Future Development

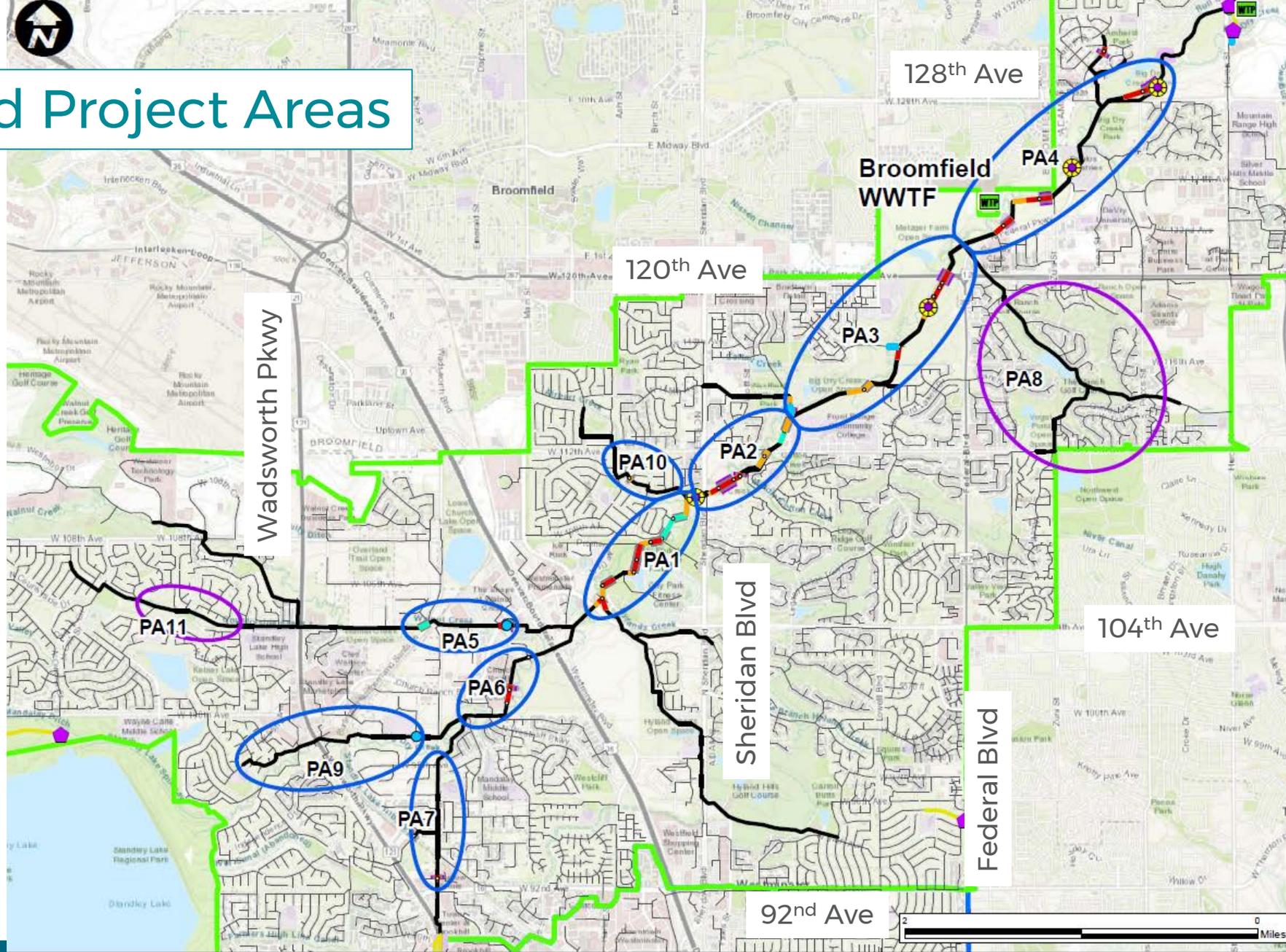
- Parcel by Parcel Estimate of Flow
- Updated indoor water usage factors using historical meter data



V. Accomplishments (3 of 3)

- Determined peak flows and corresponding pipeline capacities using a computerized hydraulic model
- Evaluated condition of all pipes
- Identified project areas and budget costs for needed improvements
- Evaluated growth impacts on entire Utility

Identified Project Areas



Legend

- Analyzed Pipes**
 - Black line: Analyzed Pipes
 - Grey line: Non-Analyzed System
- Slope**
 - Purple: Negative Slope Pipe
 - Light Purple: Flat Slope Pipe
- Infrastructure**
 - Green box: WWTF/Meter Station
 - Yellow circle: Diversion Structure
 - Purple diamond: Lift Station
 - Yellow line: Forcemain
 - Blue line: Siphon
- Sewer Basins**
 - Green outline: Big Dry Creek
 - Blue outline: Little Dry Creek
- Project Areas**
 - Blue outline: Capacity and Condition
 - Purple outline: Condition
- SSO Risk**
 - Max WSE to Manhole Rim
 - Red circle: 0 ft
 - Orange circle: 0 - 2 ft
 - Yellow circle: 2 - 4 ft
 - Green circle: 4 - 6 ft
 - Blue circle: 6 - 8 ft
 - White circle: Greater than 8 ft
- Capacity Limitations**
 - Red line: Existing Conditions (48)
 - Orange line: Model Condition 2 (83)
 - Green line: Sensitivity Analysis Model Condition 2 (89)
 - Grey line: Exceeds Capacity

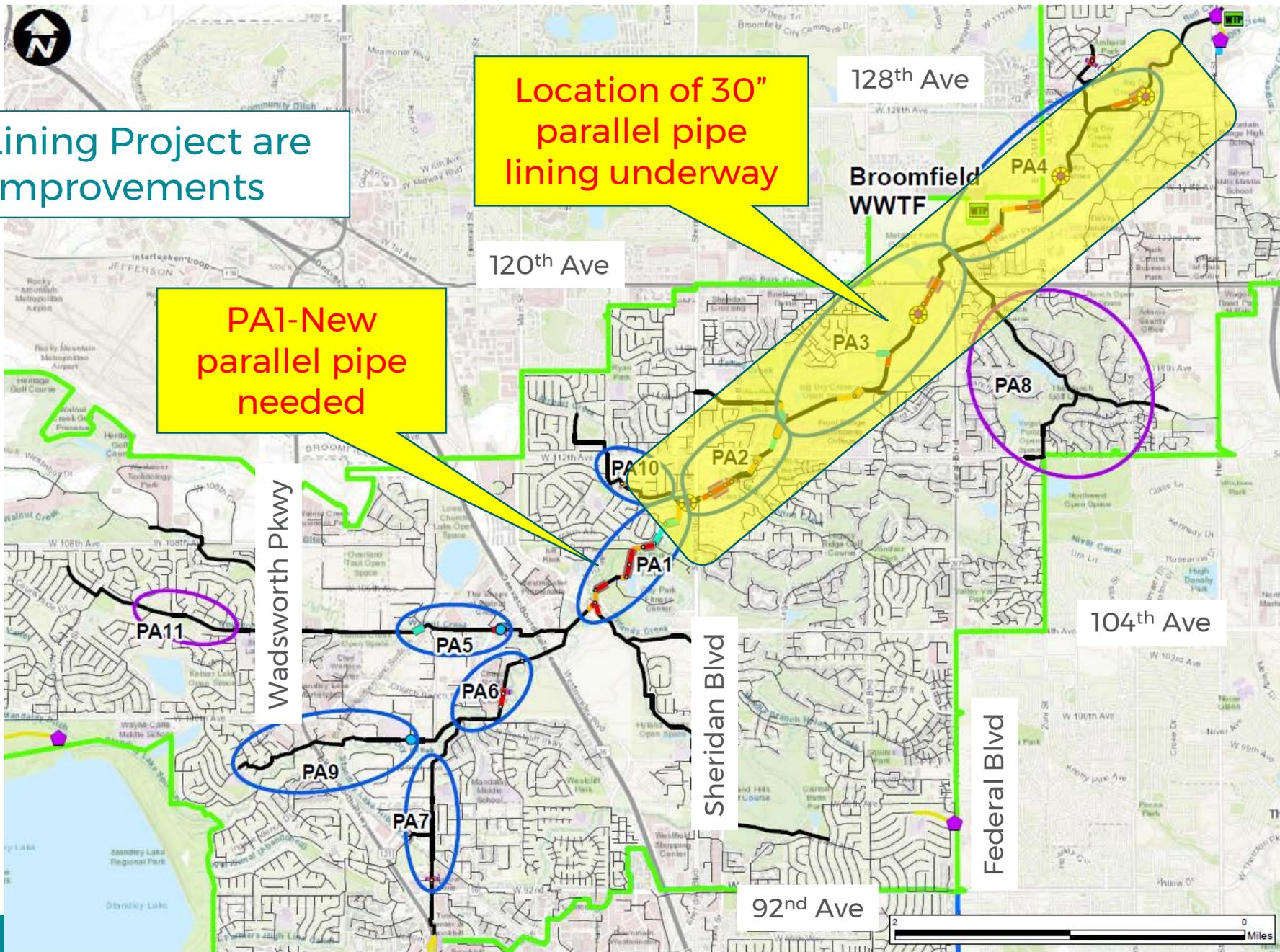
City of Westminster, CO
Big Dry Creek Improvements
Project Area Map Overview



PA1 & Lining Project are Major Improvements

Location of 30" parallel pipe lining underway

PA1-New parallel pipe needed



Legend

- Analyzed Pipes
- Non-Analyzed System
- Negative Slope Pipe
- Flat Slope Pipe
- WWTF/Meter Station
- Diversion Structure
- Lift Station
- Foremain
- Siphon

Sewer Basins

- Big Dry Creek
- Little Dry Creek

Project Areas

Project Type

- Capacity and Condition
- Condition

SSO Risk

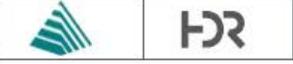
Max WSE to Manhole Rim

- 0 ft
- 0 - 2 ft
- 2 - 4 ft
- 4 - 6 ft
- 6 - 8 ft
- Greater than 8 ft

Capacity Limitations

- Existing Conditions (48)
- Model Condition 2 (63)
- Sensitivity Analysis Model Condition 2 (66)
- Exceeds Capacity

City of Westminster, CO
Big Dry Creek Improvements
Project Area Map Overview



VI. Early Actions

- Implemented \$3.4M contract to line ~20,000 feet of pipe to enable its full use
- Determined that development projects in-process could proceed
- Recommended modifying the moratorium to allow 4 developments to proceed with their development applications

VII. Current Actions and Next Steps

- Lining 30” pipeline and manholes
- Complete Pre-design Study
- Recommend removing the development application
Moratorium on April 29, 2019
- Return to City Council with final engineering design
contract in May/June

VIII. Questions & Answers