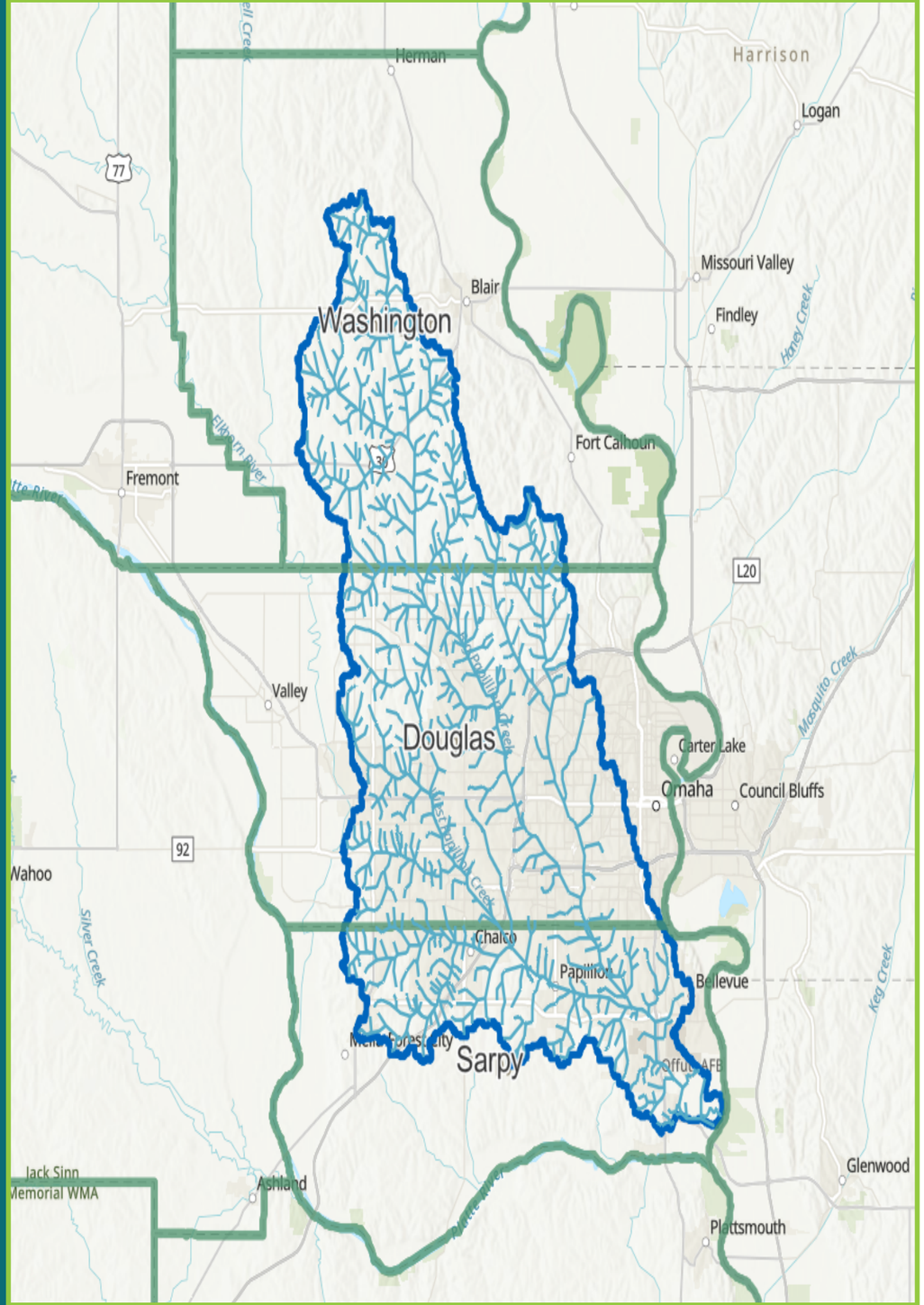
Past
Present
Future

Papillion Creek WATERSHED PARTNERSHIP

February 1, 2024

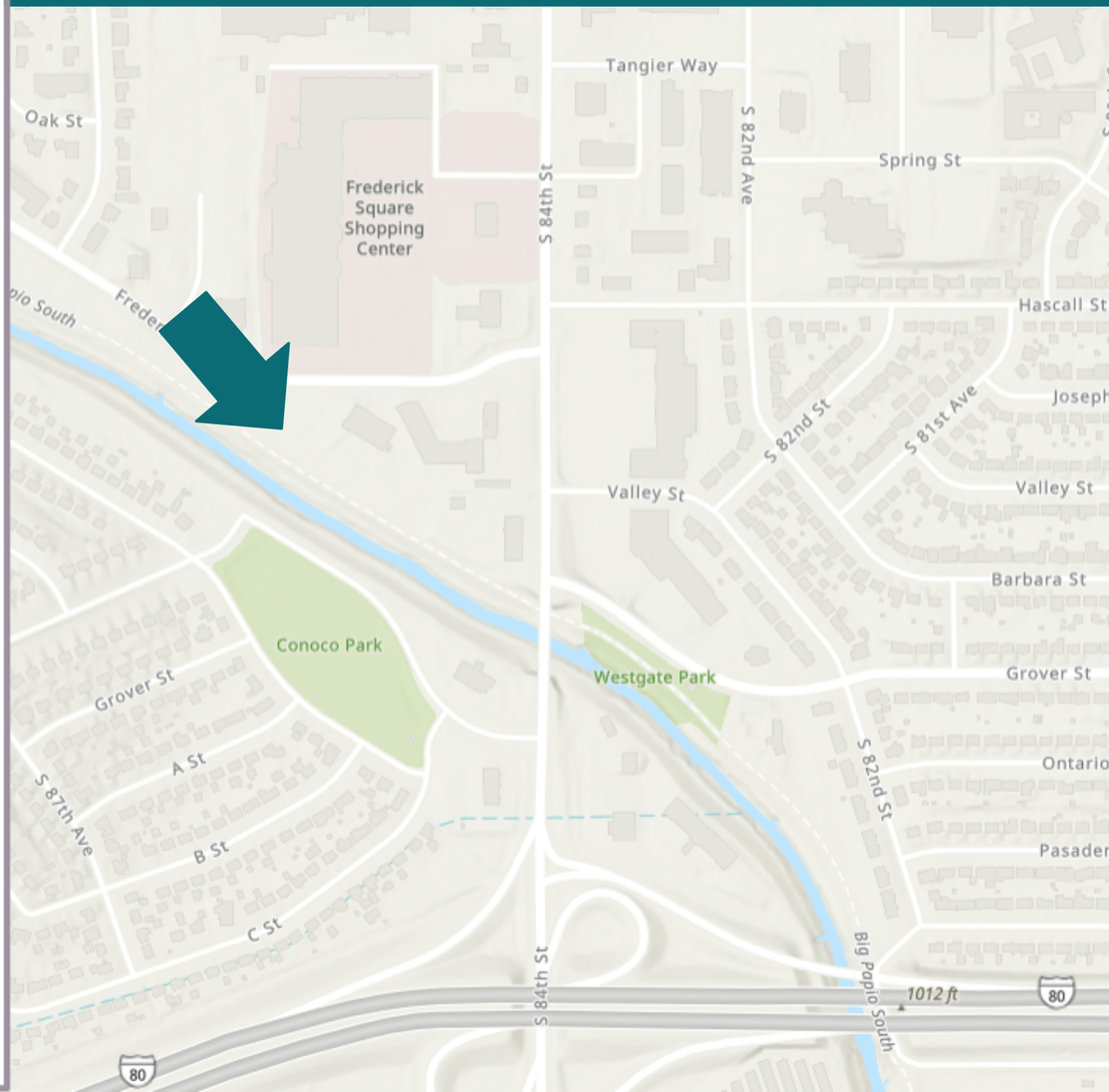


Papillion Creek Watershed

- 402 Square Miles
- Three Counties
  - Washington
  - Douglas
  - Sarpy
- 11 Cities
- Approximately 1/3 of Nebraska's Population

1959


GROVER St.
BRANDIES
84th St
BIG PAPIO CREEK
FLOODING
AUG. 2nd, 1959
BIG
PAPIO


Tangier Way
Oak St
Frederick
Square
Shopping
Center
S 84th St
S 82nd Ave
Spring St
Hascall St
S 82nd St
S 81st Ave
Valley St
Barbara St
Conoco Park
Westgate Park
Grover St
A St
B St
C St
S 87th Ave
S 82nd St
Ontario
Pasader
Big Papio South
1012 ft
80

Floods of Significance

1943

1964

1999

1932, 1944, 1946, 1947, 1950, 1957, 1959, 1964, …, 1999, 2008, 2014, 2015, 2019

2000

Other Issues

- Degrading streams
- Erosion
- Protection of infrastructure & natural resources
- Enhance quality of life without damaging natural resources

Papillion Creek Watershed Partnership Mission Statement

Our mission is to address issues related to water quality and storm water quantity in the Papillion Creek Watershed by establishing regionally common goals and standards for the development of the watershed through 2040.

PCWP Members

Bellevue NEBRASKA
We Influence The World!

BOYS TOWN
Saving Children Healing Families

RALSTON
NEBRASKA
INDEPENDENCE CITY

Gretna
THE GREAT LIFE

LA VISTA
NEBRASKA

CITY OF OMAHA, NEBRASKA
INCORPORATED FEBRUARY 2, 1857

CITY OF PAPILLION
FOUNDED IN 1870

SARPY COUNTY
NEBRASKA

PAPIO
MISSOURI RIVER

Papio NRD

- Administering Agent for PCWP
  - Hold and disburse funds
  - Execute and manage contracts on behalf of PCWP
  - Record keeping
- Construct Priority Projects of the PCWP
- Provide Technical Assistance
- Provide Cost Share Programs

PCWP Management Drivers

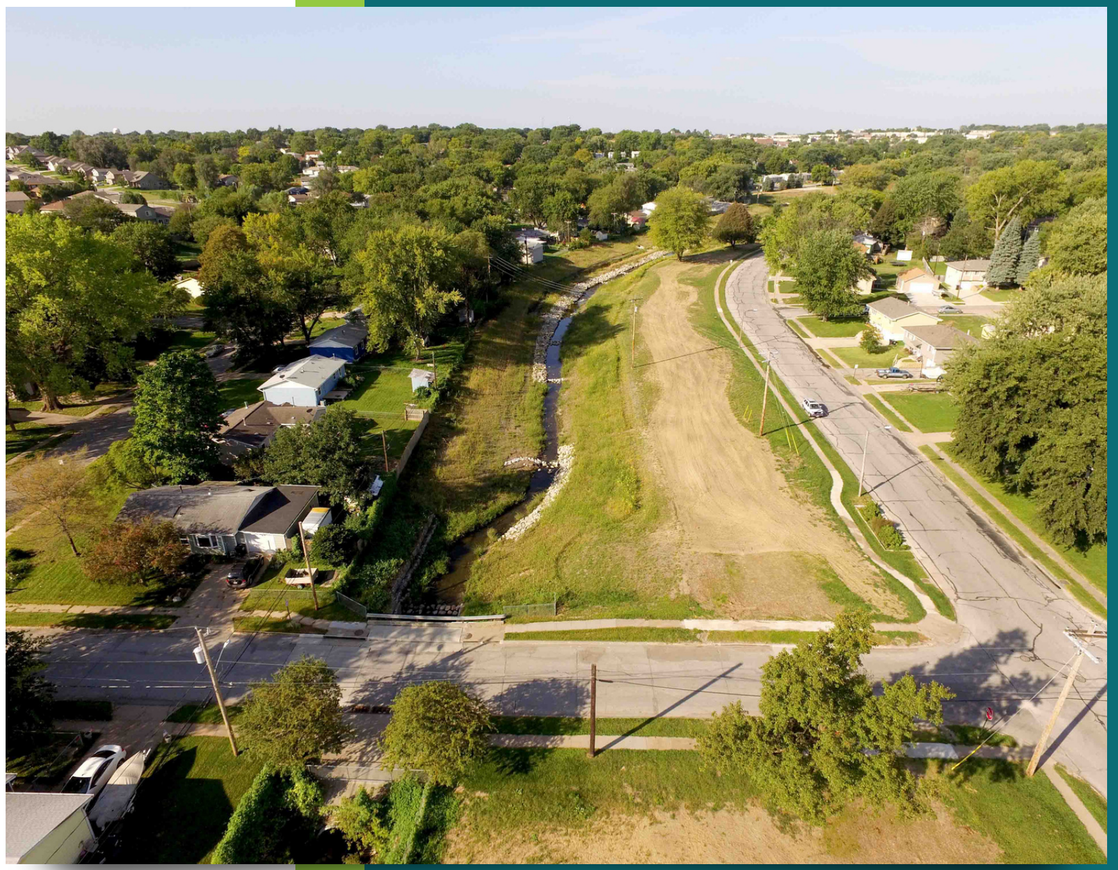
- Accommodating Growth in the Watershed
- Regulatory Obligations
- Flooding Potential in Major Tributaries
- Aesthetics and Quality of Life

From July 20, 2006 Public Forum

Green, Clean, Safe Watershed

- **Green - urban greenways and trail corridors connect city parks, open spaces, recreation areas**
- **Clean - enhances water quality, supports community recreation, protects wildlife**
- **Safe - manages stormwater runoff, protects from damaging impacts of floods**

From July 20, 2006 Public Forum



Plan Development Process 2001-2009

3 Workgroups

Technical

Policy

Finance

Technical Analysis

Water Quality

Water Quantity

Alternatives Analysis

Public Outreach

Small Group Presentations

Open Houses

Elected Official Forums

Adopt

Interlocal

Agreement

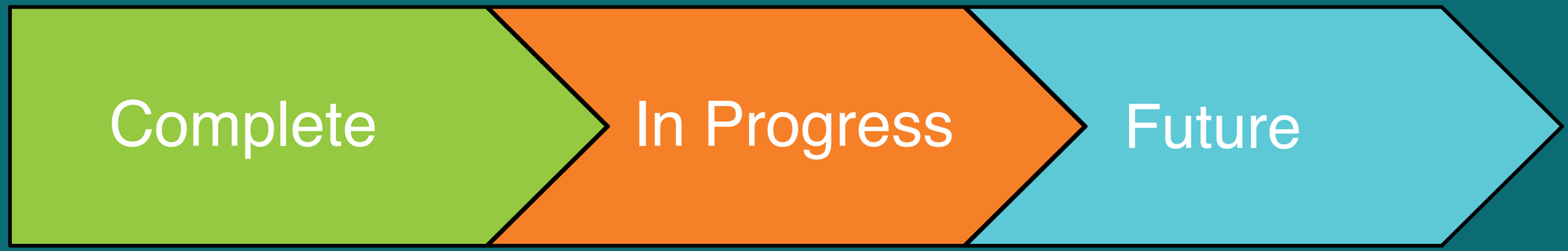
Municipal Code

Watershed Management Plan Adopted!

Stormwater Policies

1. Water Quality Improvement
2. Peak Flow Reduction
3. Landscape Preservation, Restoration, and Conservation
4. Erosion and Sediment Control and Other Best Management Practices
5. Floodplain Management
6. Stormwater Management Financing

Structural Flood Control Projects



- WP5 & WQ Basin
- DS15A & WQ Basin
- Zorinsky WQ Basin 1
- Zorinsky WQ Basin 2
- WP6
- WP7

- WP4
- WP2
- WP1

- DS12
- DS19
- DS7
- DS10
- DS9A
- DS8A
- 7 Cunningham WQ Basins

Periodic Updates

- Update the plan every 5 years
  - Projects Completed
  - Changes to Regulations
- Prioritize Next Structural Projects
- Adjust Policies
- Updates Completed 2014, 2019
- 2024 Update in Progress

2018-2021

- New Development with Existing Erosion Issues
- Ongoing Erosion in many areas
- USACE Stream Stability Study Initiated
- Plans and Policies Updated References Intent to Revise Based on Outcome of USACE Study
- Partnership engages FHU to help to identify potential for future erosion and help inform revised policies to help avoid future problems

What We Know

Current stream setbacks are not enough to protect private property/public infrastructure if nothing is done to stop streams from degrading.

There is a lack of funding to address all the known stream degradation issues.

2021 Proposed Policy

- 3:1 + 50 feet based on projected degradation
- Grade Control could be installed to reduce future degradation therefore reducing total setback width

Comments Received

1. Broad Brush
2. USACE Permitting Process
3. Additional Costs
4. Too Conservative

Interim Actions

1. Additional Analysis
2. USACE Coordination
3. Revisit Policy

Lateral Migration Analysis

- Change Detection Analysis
- 12-year period
  - 2004, 2010, and 2016 LiDAR
- Largely Undeveloped Watersheds
- Average stream widening of 5-10 feet over a 12-year period in undeveloped watersheds

USACE Coordination

- Discussion with Omaha District Regulatory Office
- Technical Advisory Group
- Permitting templates and guidance for grade control structures.
- **USACE and NDEE reviewed templates and provided input**

Revisit Policy

- Modifications to Proposed Policy for 2024 Plan Update
- PCWP Update Listening Sessions
- Member Jurisdiction Discussions

2023 Policy Proposals

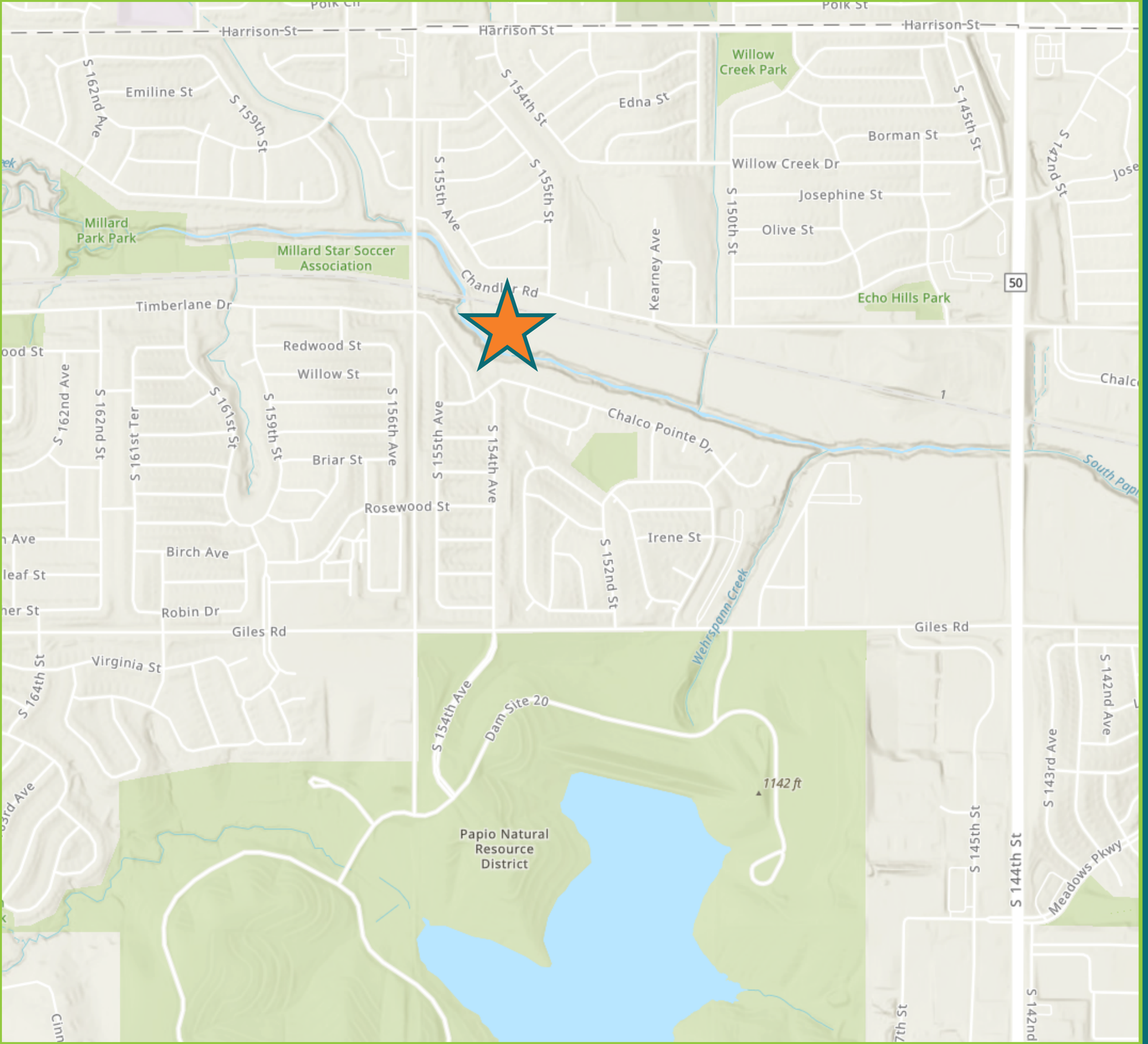
1. 3:1+50 feet setback
   No future degradation consideration
2. Allowance for passive recreation features in outer 30 feet of setback area
3. Grade Control Incorporated at stream crossings

2023 Policy Proposal Developer Feedback

- Loss of developable land is a concern
  - Beneficial uses of the wider setback area would be preferable
- Zoning regulations (other property setback requirements, parking requirements, etc) would need to be adjusted to make the increased setback more practical
- Modification of park fees/requirements and other development fees to offset the loss
- Is this a problem in areas where the current setback was in place at the time of platting?

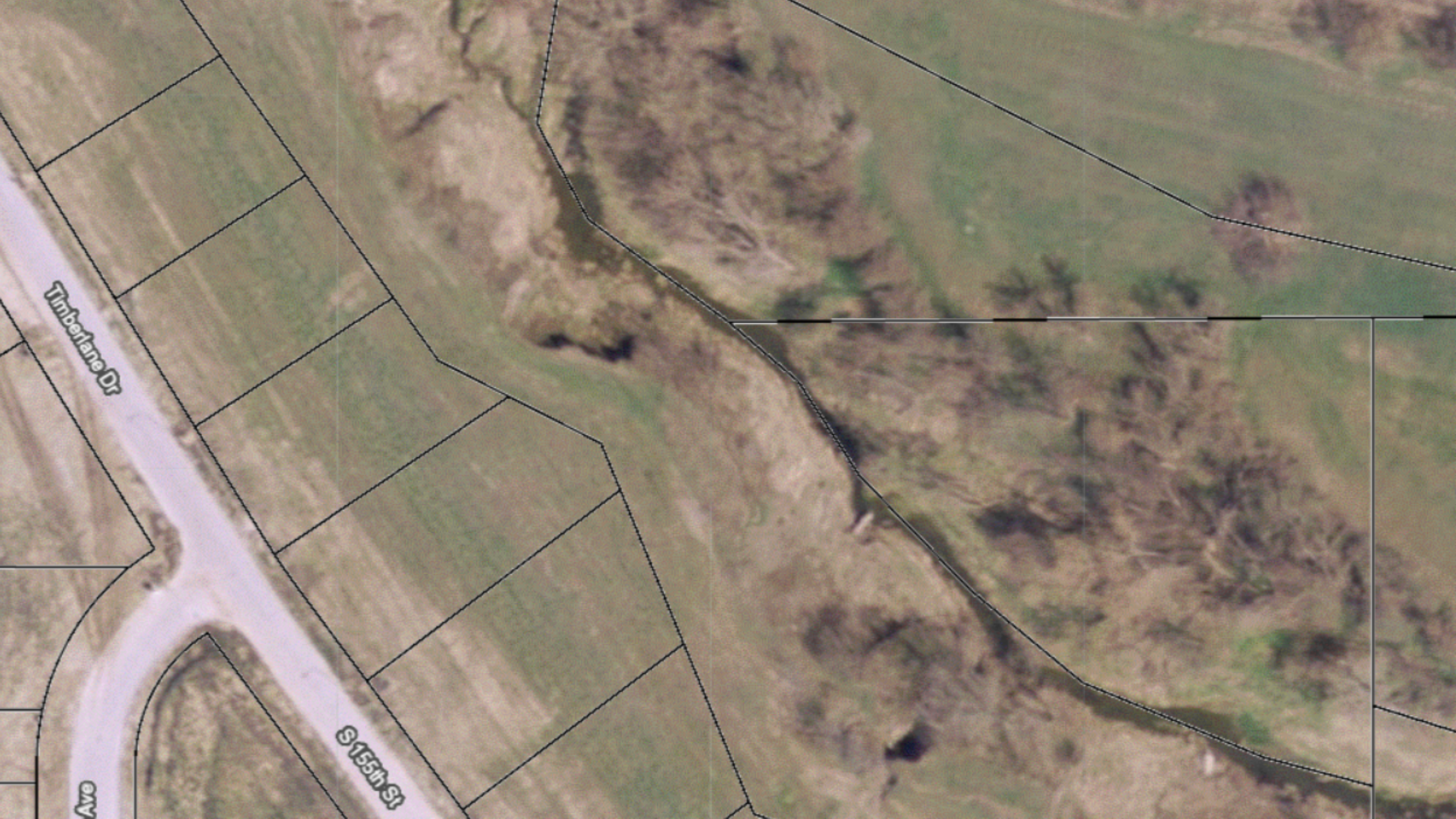
Is there really a problem?

- Data to support policy changes
  - FEMA Study (2016)
  - USACE Section 22 Study (2022)
  - FHU Study (2021-2023)
  - Southern Sarpy Watershed Partnership - Stream Stability Workshop (2018)
  - And More



Giles Ridge Sewer Project

- South Papillion Creek at 156th St.
- Platted with Stream in Outlot
- $200,000+ for Bank Repair Construction Only
- No long-term solution for grade control

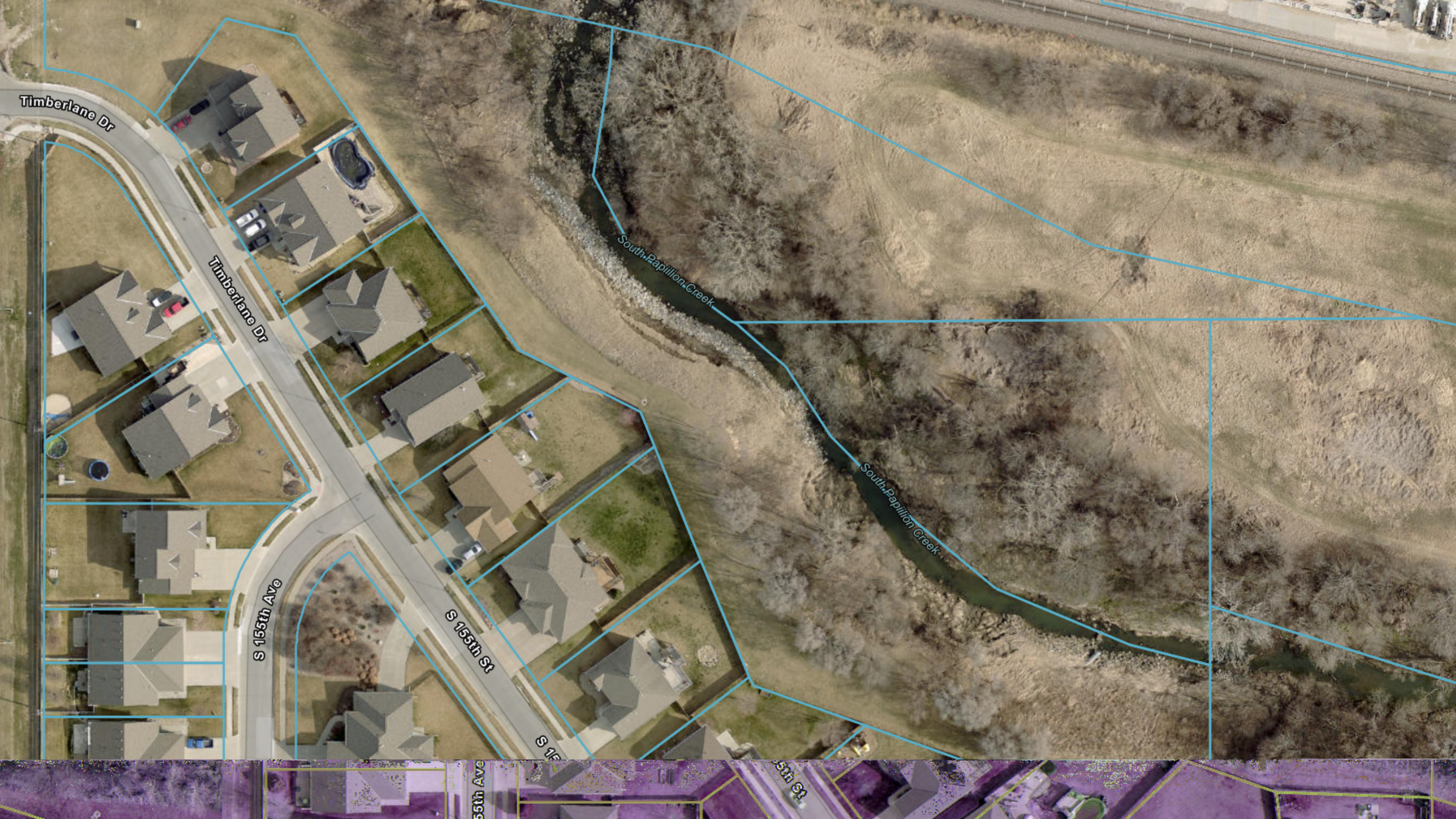

Timberlane Dr
S 155th St

Timberlane Dr

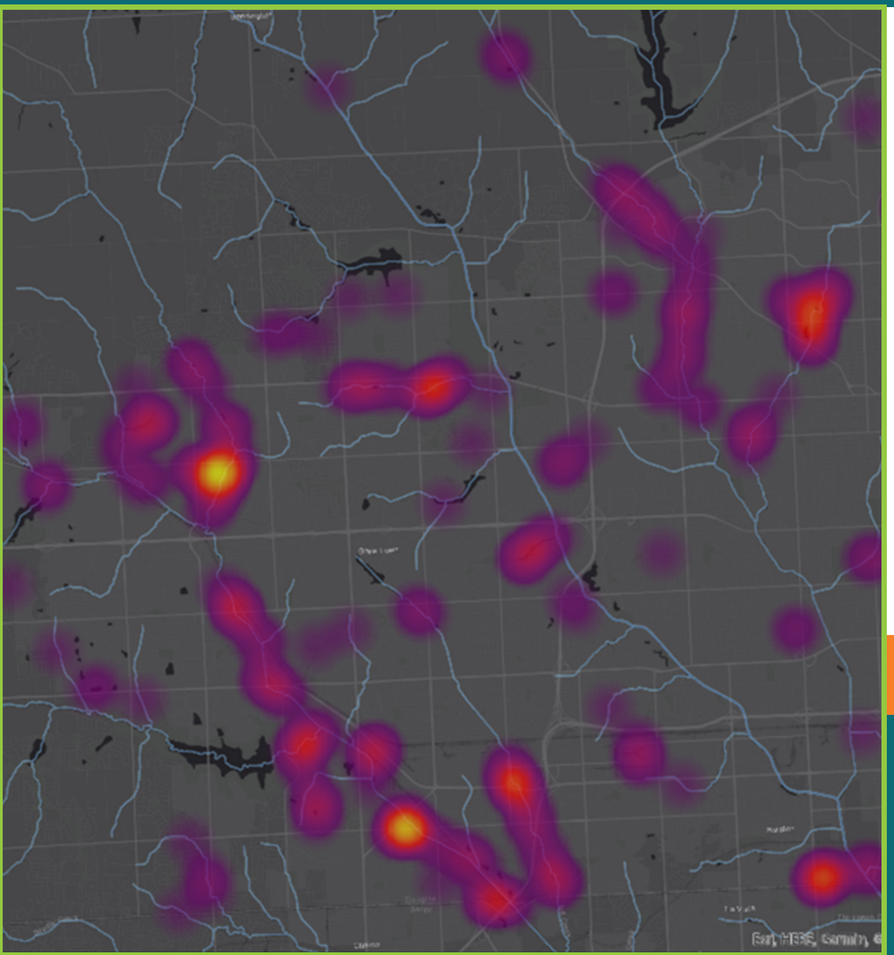
S 155th St

Ave


Timberlane Dr


Timberlane Dr
Timberlane Dr
South Papillion Creek
South Papillion Creek
S 155th Ave
S 155th St

Is there really a problem?

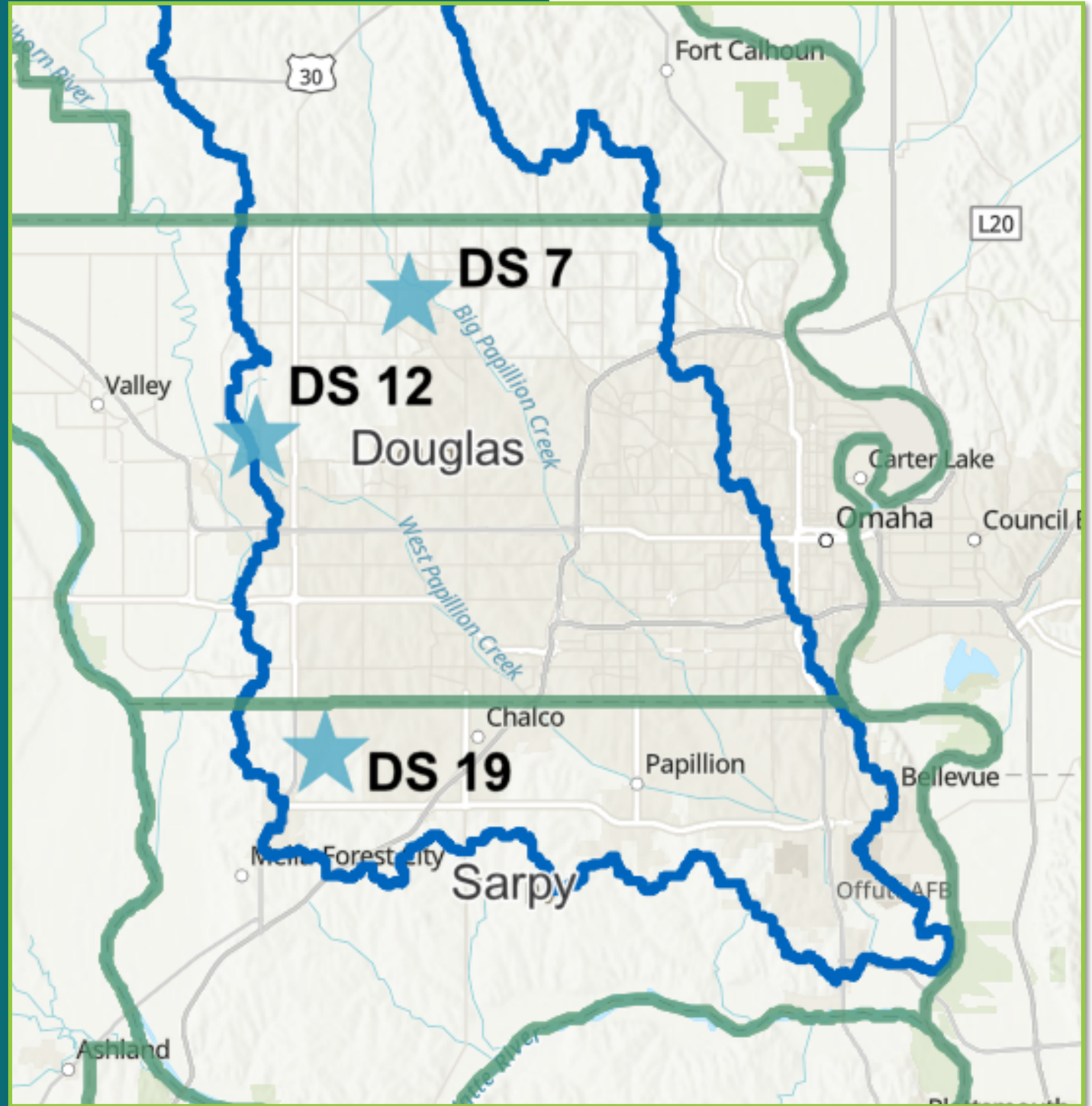


Giles Ridge Example – Loss of 30 feet from 2004-2016

This is an ongoing problem for municipalities and ultimately tax payers.

Funding is not available to solve current problems.

Proactive solution is needed.



2024 Update

- Regional Detention Basins
  - Dam Site 12
  - Dam Site 7
  - Dam Site 19, based on USACE funding
- Policy Updates
  - Partnership discussion ongoing

The Future

1. Complete Watershed Plan Update for 2024

   Adoption by June 2024

2. Continue work with developers and other stakeholders to find a solution for stream degradation issues

3. Support efforts to identify barriers to creating affordable housing at a lesser risk from erosion and flooding

4. Work towards creation of green space corridors through efforts such as Climate Action Plan, park plans, and active transportation plans.

Questions?

Lori Ann Laster, PE, CFM
Papio-Missouri River Natural Resources District
LLaster@PapioNRD.org
402.315.1773

PapioPartnership.org