

# McNeil Drive Low Water Crossing

# Watershed Protection Department Mission

- Protect lives, property, and the environment of our community by reducing the impact of flood, erosion, and water pollution.



## Creek Flood Risk Reduction

- Our mission: Protect lives and property by reducing the risk of flooding from creeks
- How we achieve our mission:
  - ✓ **Capital Improvement Projects**
  - ✓ Small Scale Projects
  - ✓ Maintenance of Waterways
  - ✓ Development Regulation
  - ✓ Assist in the Development of City Code and Criteria



# Creek Flood Risk Reduction Project Goals

- Projects goals consist of:
  - ✓ Reduce risk of building flooding
  - ✓ Reduce property damage
  - ✓ Reduce buildings in the floodplain
  - ✓ Reduce flood risk at bridges & creek crossings
  - ✓ Reduce road closures
  - ✓ Reduce maintenance needs



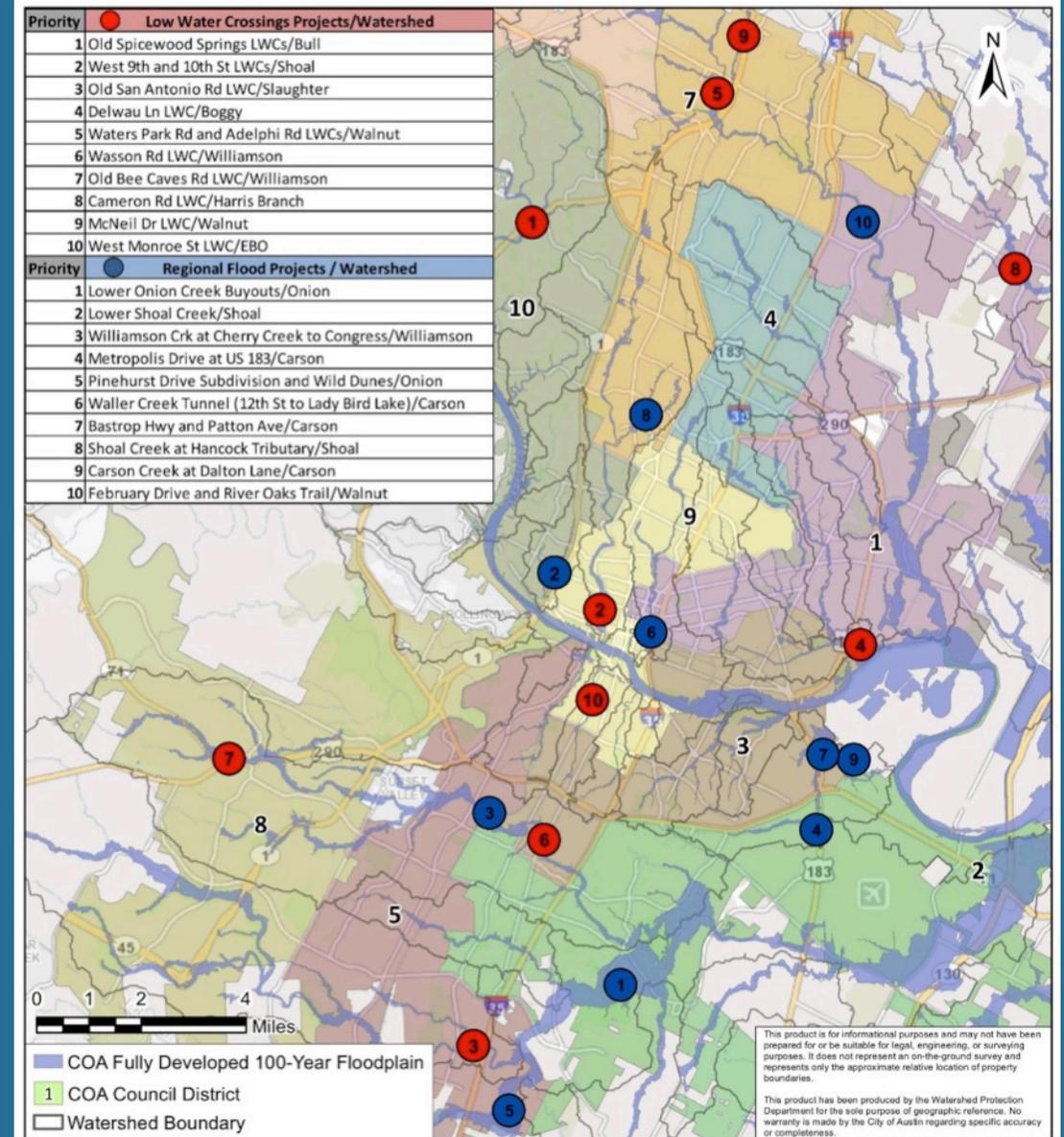
# Creek Flood Risk Reduction Project Types

- Projects may consist of:
  - ✓ Detention ponds
  - ✓ **Low water crossing improvements**
  - ✓ Flood walls
  - ✓ Channel widening
  - ✓ Home Buyouts
  - ✓ Community Resilience Plans



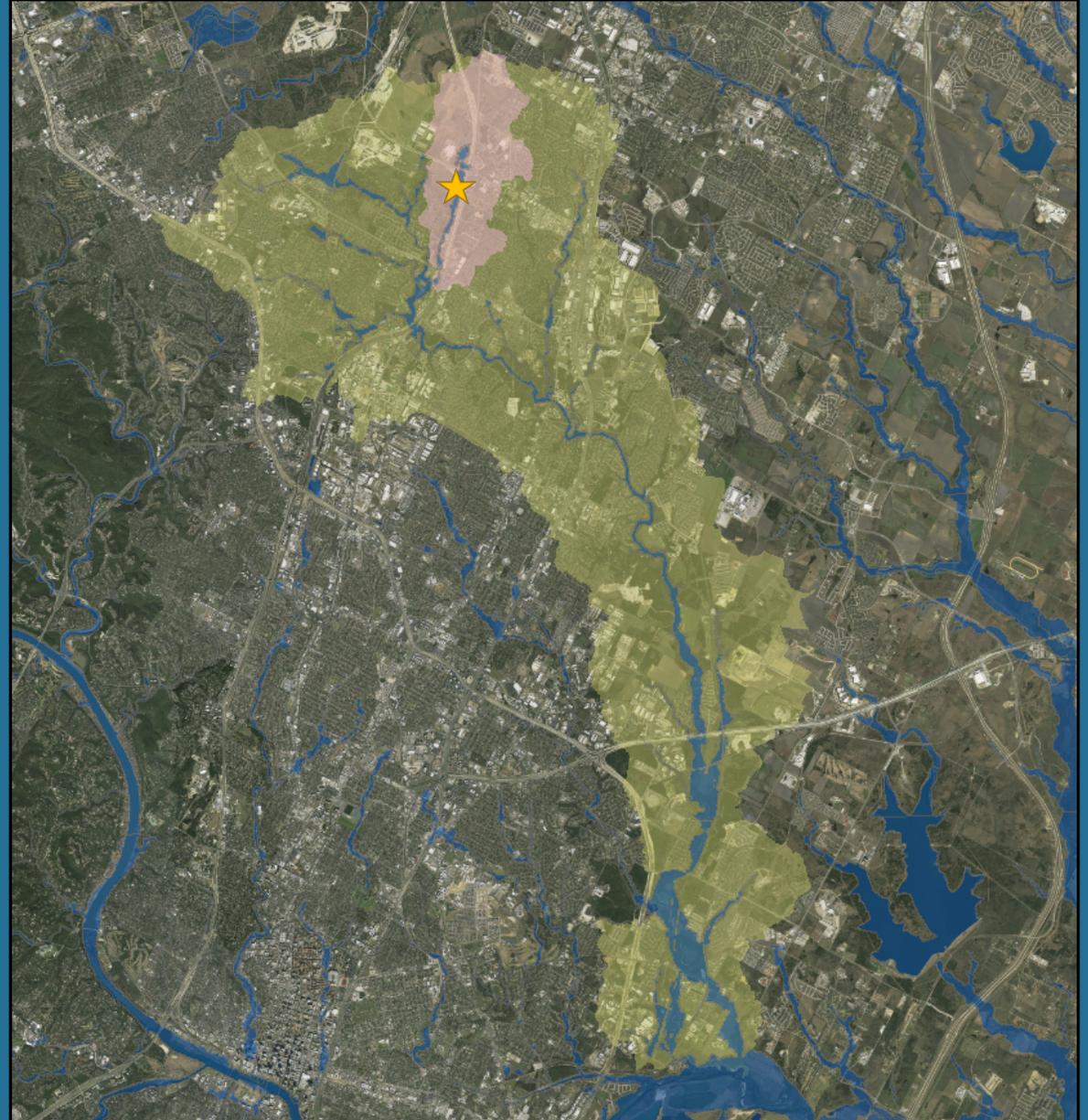
# Identifying Priorities

- Flood scores
- Field inspections
- Feasibility assessments
- Partnership opportunities
- Cost & benefits
- Impacts to community



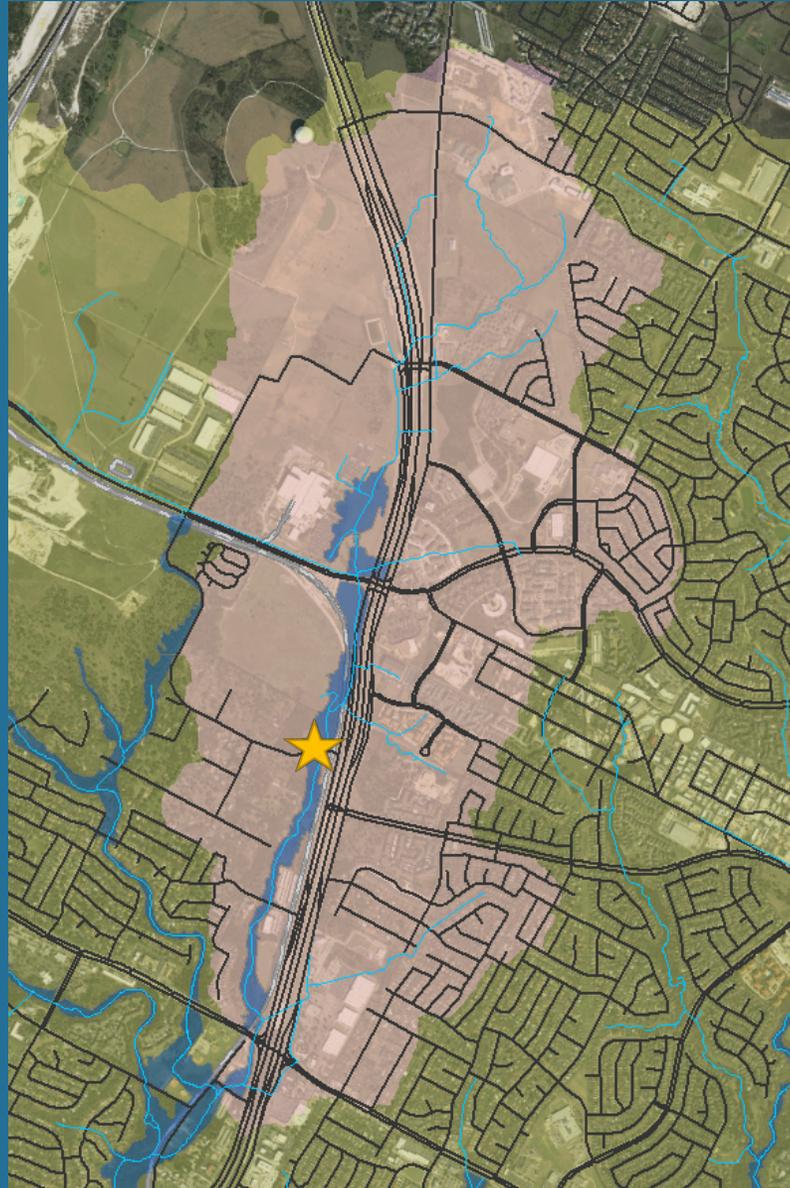
## Walnut Creek Watershed

- 43.5 square mile Drainage Area
- 22.3 mile creek length
- Population ~94,000 (2000)
- ~30.5% Impervious Cover (2013)
- Water quality declining from “Very Good” to “Good”



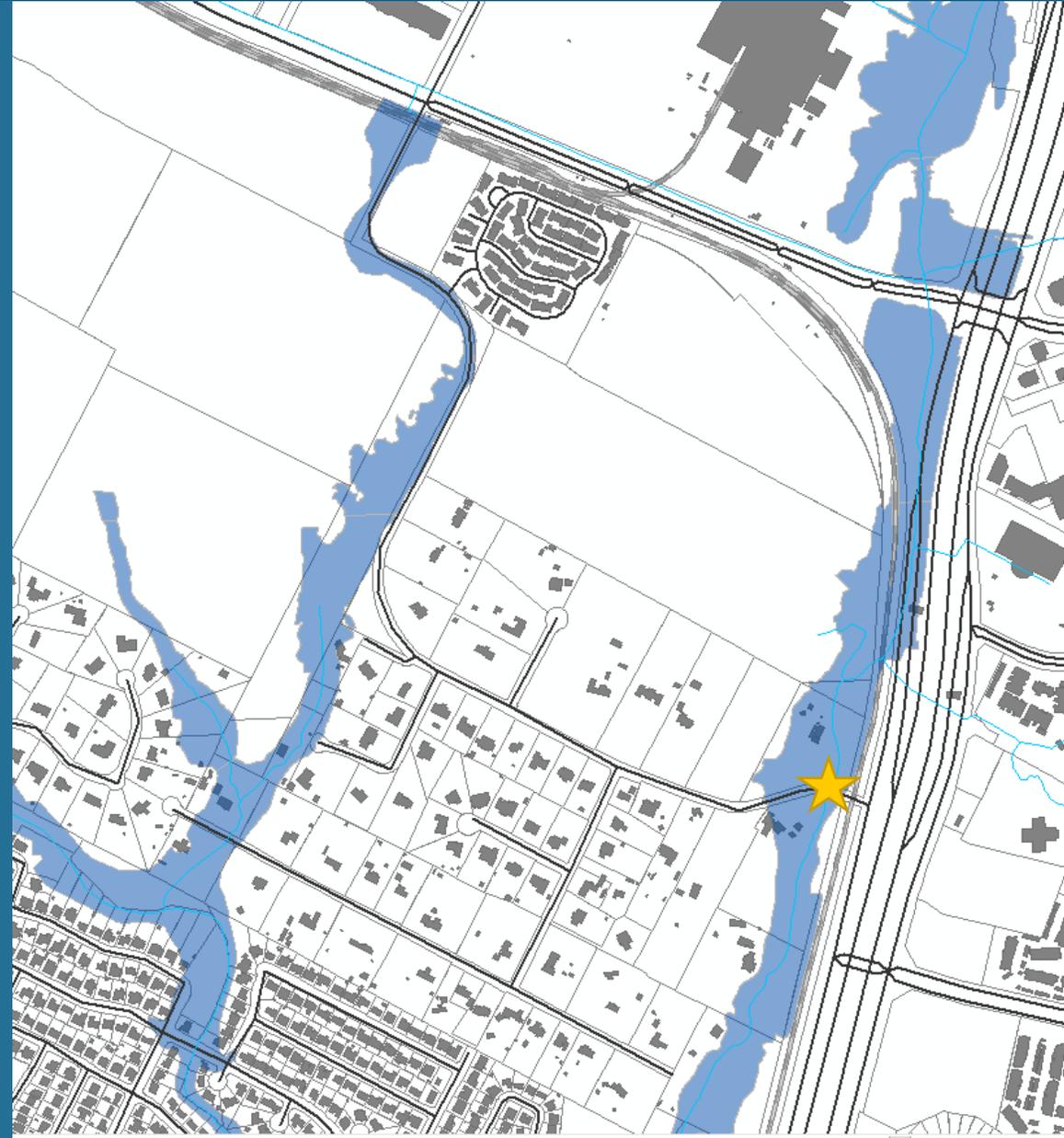
## Walnut Creek Trib 9

- Drainage area above crossing: 2.2 Sq mi
- Partially located in Edwards Aquifer Recharge Zone
- Over 4000 cfs in 100-year at McNeil Drive



## McNeil Drive Low Water Crossing

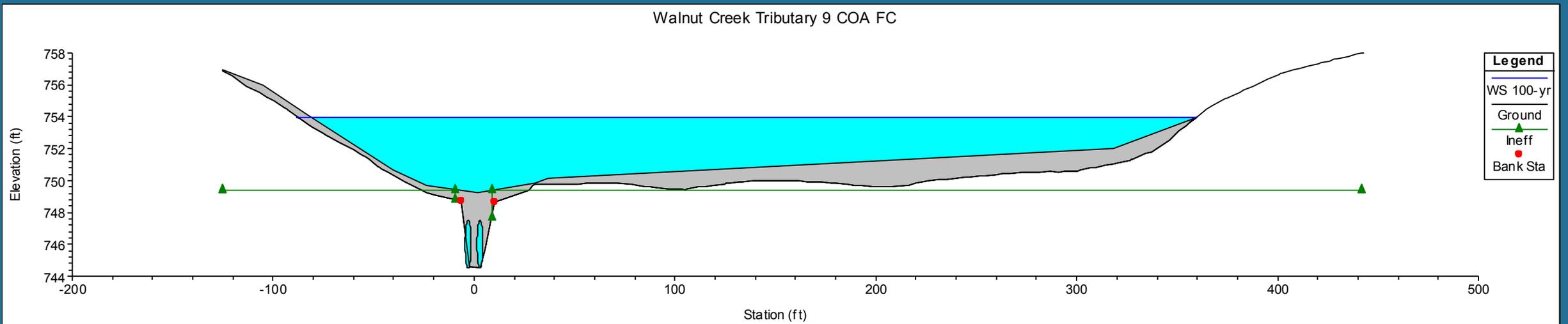
- Closed 22 times since 2014
- Overtopping depth of 3 feet in a 2-year storm
- McNeil Drive also flooded by Walnut Creek Trib 10
- 3 buildings on two properties at risk of flooding



# McNeil Drive Low Water Crossing

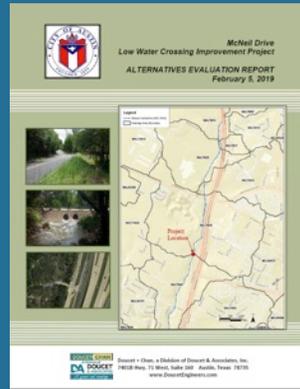
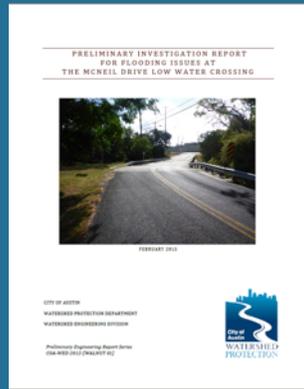


Walnut Creek Tributary 9 COA FC

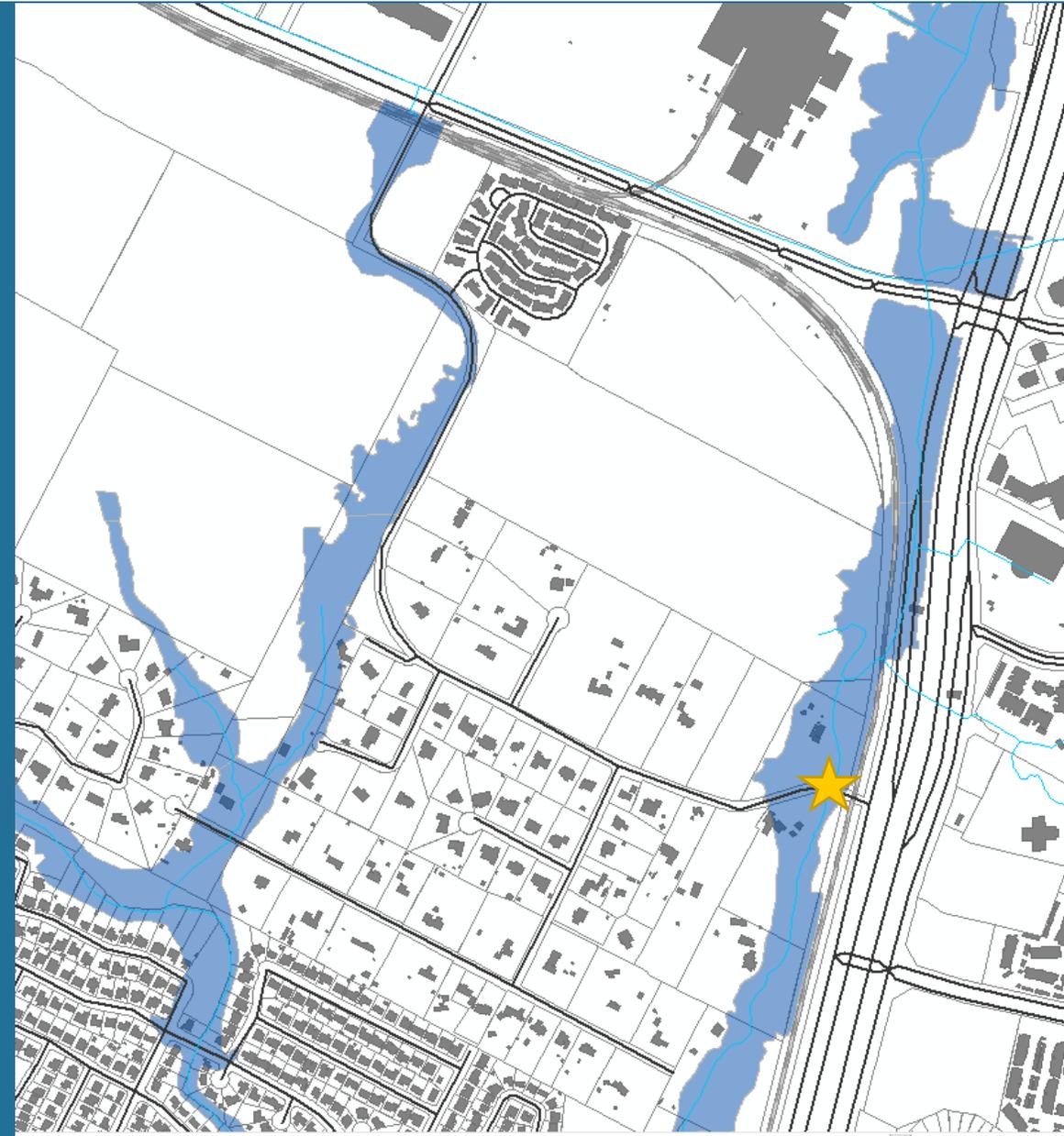


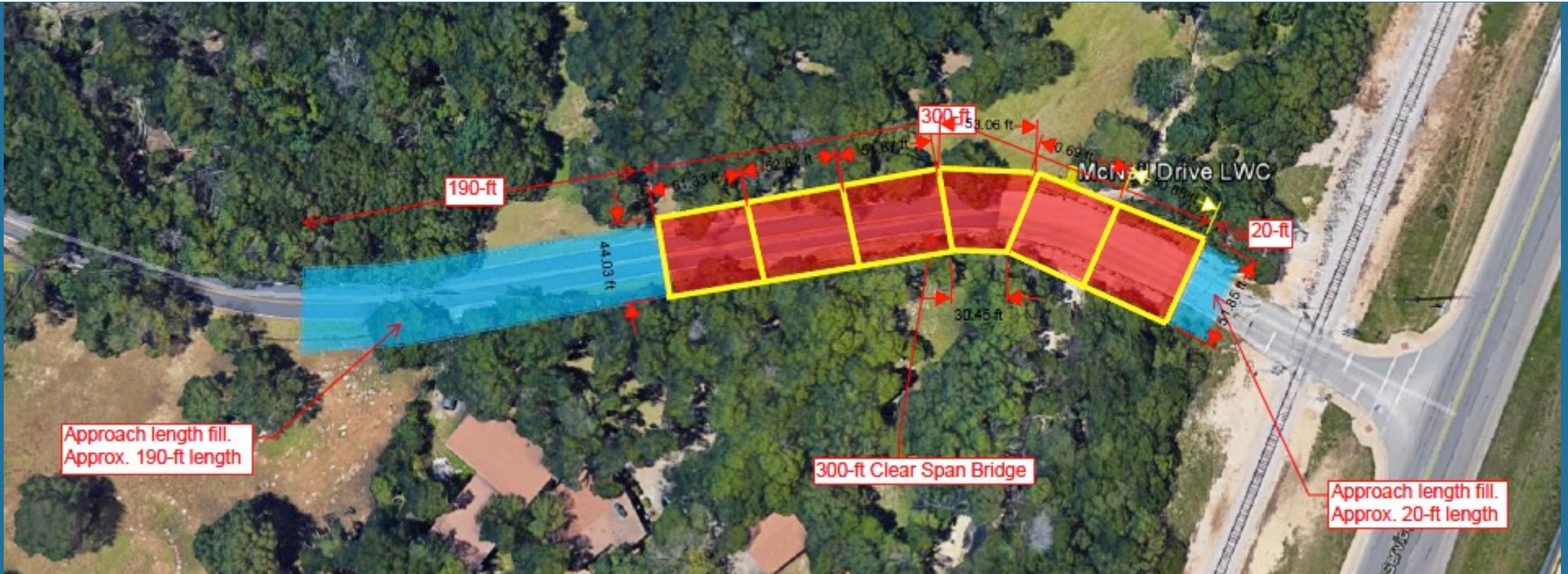
Legend	
WS 100-yr	(Cyan shaded area)
Ground	(Green line with triangles)
Ineff	(Red dot)
Bank Sta	(Red dot)

# Feasibility Study Preliminary Engineering Report



- Alternate routes
- Permanent bridge closure
- Detention ponds
- Road closure during construction
- Bridge configuration (clear span, arches, culverts)
- Pier spacing
- Lane configurations
- Embankments



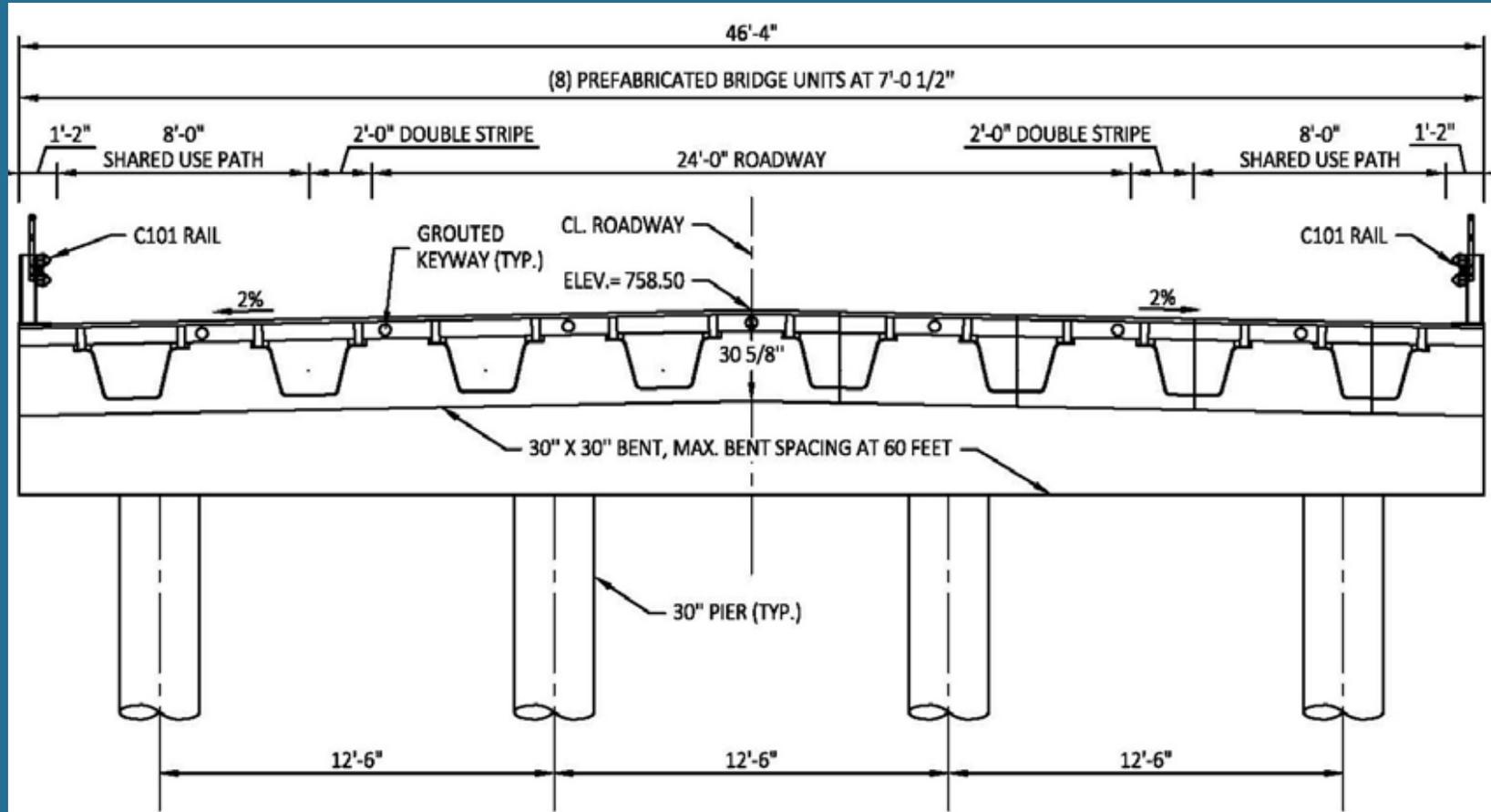
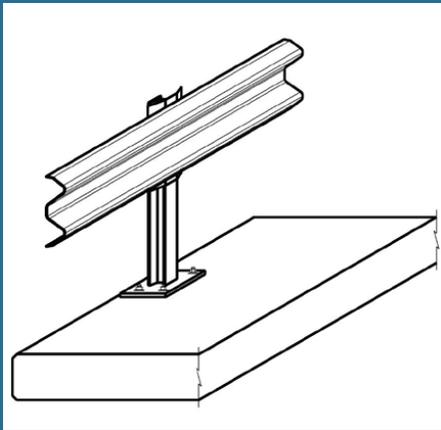


## Selected Design

- 300-ft Clear Span Bridge
- 60-foot pier spacing
- Max height 12ft
- Retaining walls on approaches

Bridge deck width is 46'-4"

- Two 12-ft vehicle travel lanes
- Two 2-ft shoulder double-striping zones
- Two 8-ft emergency shoulder/shared use lanes
- Two 1'-2" bridge railing zone



TYPICAL TRANSVERSE SECTION AT INTERIOR BENT

SCALE: 1" = 6'

## Estimated Project Cost

5.4M to 6.2M

## Temporary Road Closure (3 months)

- Cost Reduction - \$1.2M
- Time Reduction – 12 months to 9 months

## Timeline

- Begin Design                      June 2019
- Design                                ~1 Year
- Permitting/Bid                      ~1 Year
- Construction                        ~9 – 12 months

**Contact Information:**

**John Middleton**

**512-974-3515**

**[john.middleton@austintexas.gov](mailto:john.middleton@austintexas.gov)**

**Project Website: coming soon!**