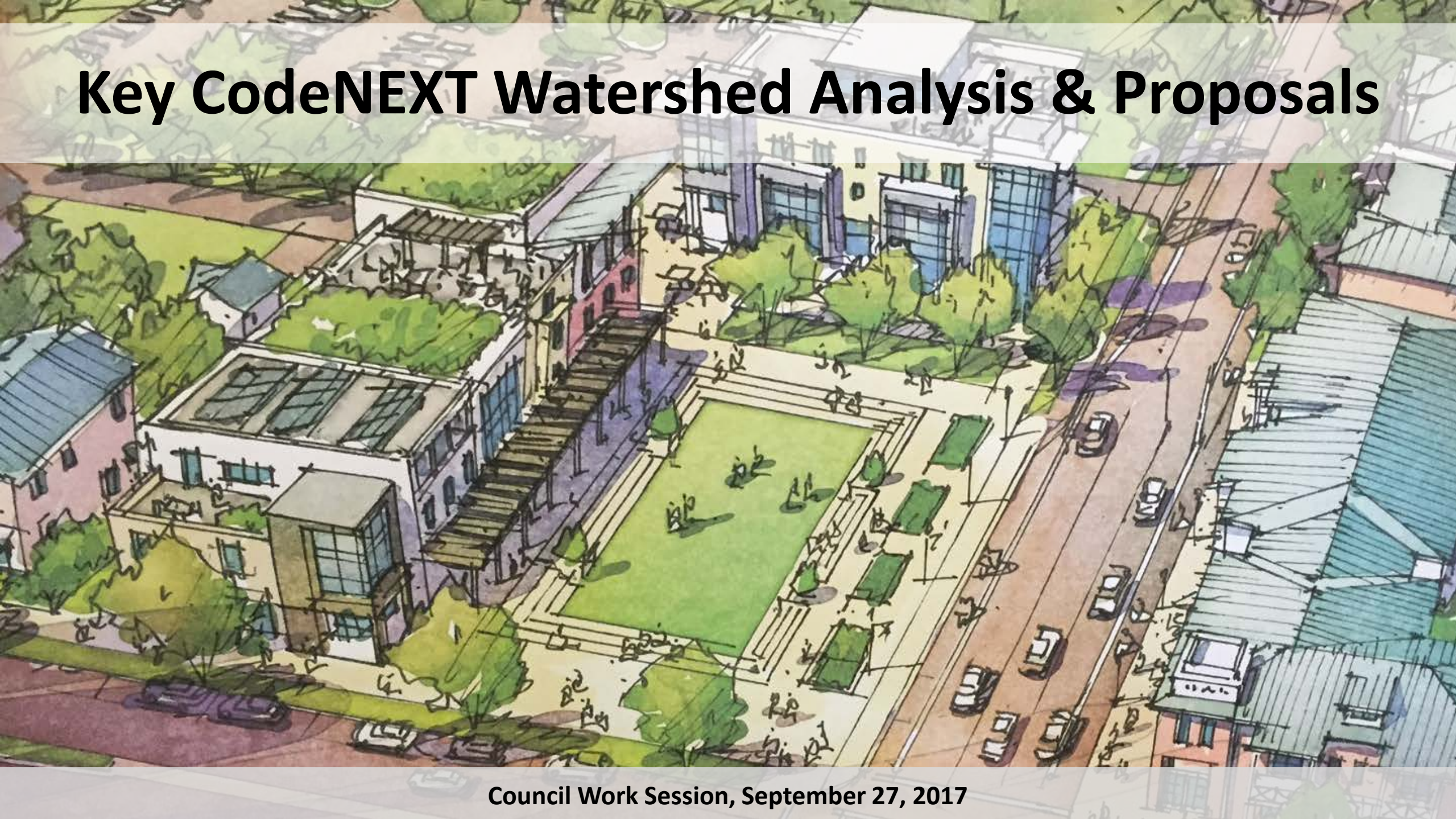


Key CodeNEXT Watershed Analysis & Proposals



Council Work Session, September 27, 2017

Overview of Presentation

- Balancing Austin's priorities
- Impervious cover analysis
- Maintain existing watershed protections
- Flood Mitigation for Redevelopment
- Green Infrastructure /
Beneficial Use of Stormwater
- Next Steps for Draft 3



An aerial perspective sketch of a city block. The scene includes several multi-story buildings with varied architectural styles, some with flat roofs and others with more complex structures. There are numerous green trees scattered throughout the block, particularly along the streets and in open areas. A wide road with several lanes runs diagonally across the lower right portion of the image, with several cars depicted. A large, open green space, possibly a park or a large lawn, is located in the center of the block. The overall style is a loose, artistic sketch with visible lines and a limited color palette of greens, browns, and greys.

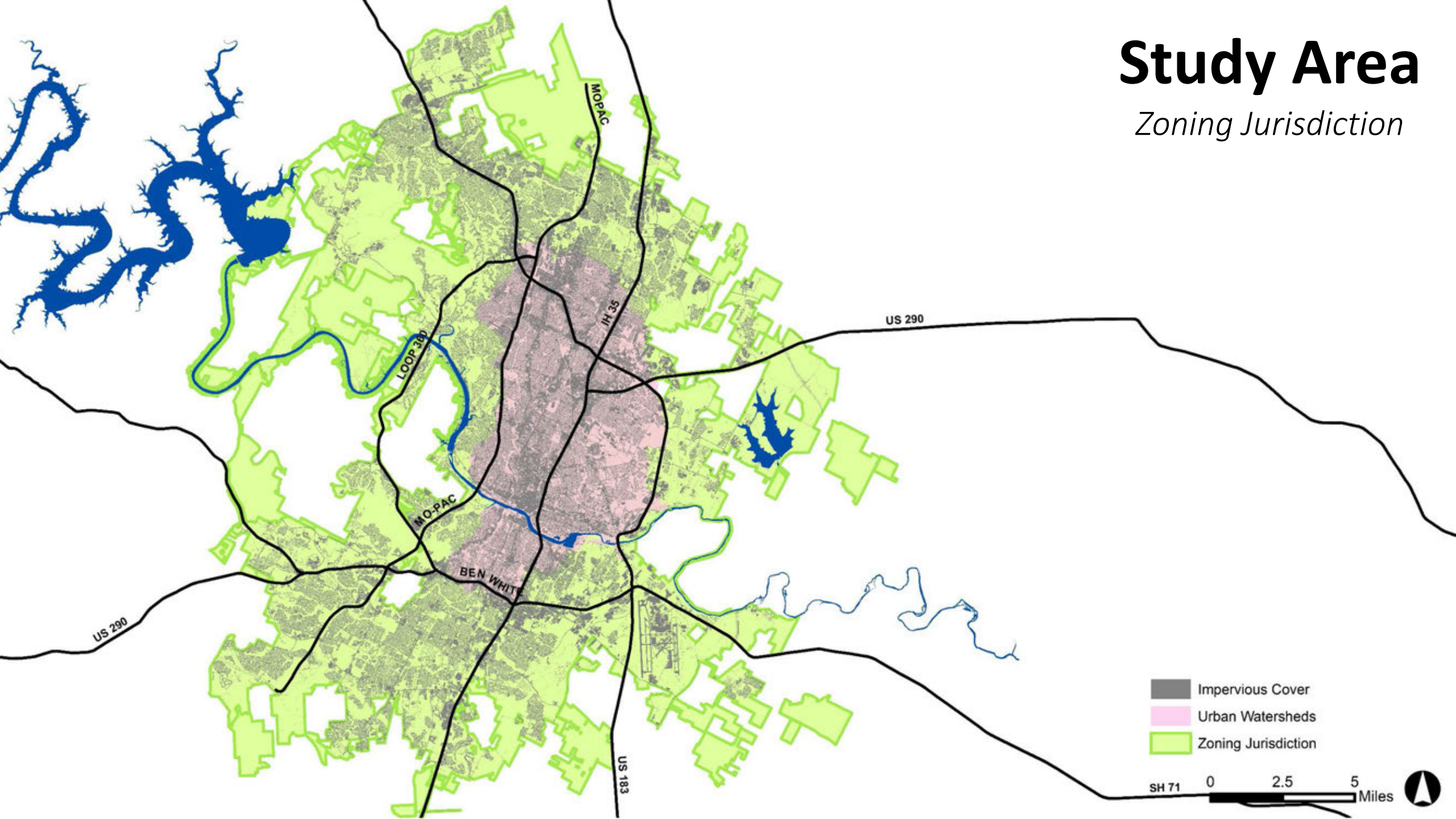
Impervious Cover Analysis

Purpose of Impervious Cover Analysis

- Compare **maximum** impervious cover allowed by CodeNEXT vs. maximum allowed by current code.
 - 100-year floodplain and drainage infrastructure implications
- Understand areas of change

Study Area

Zoning Jurisdiction



Impervious Cover Analysis Results (Draft 1 - updating soon)

Watershed	Watershed Area Within City Limits (acres)	Existing Impervious Cover (%)	Allowed Maximum Impervious Cover (%)		Difference between Current and Proposed Entitlements
			Current LDC	Proposed LDC	
Total	214,775	25%	49.6%	49.8%	0.3%
Urban Watersheds	38,594	48%	64.4%	64.1%	-0.4%

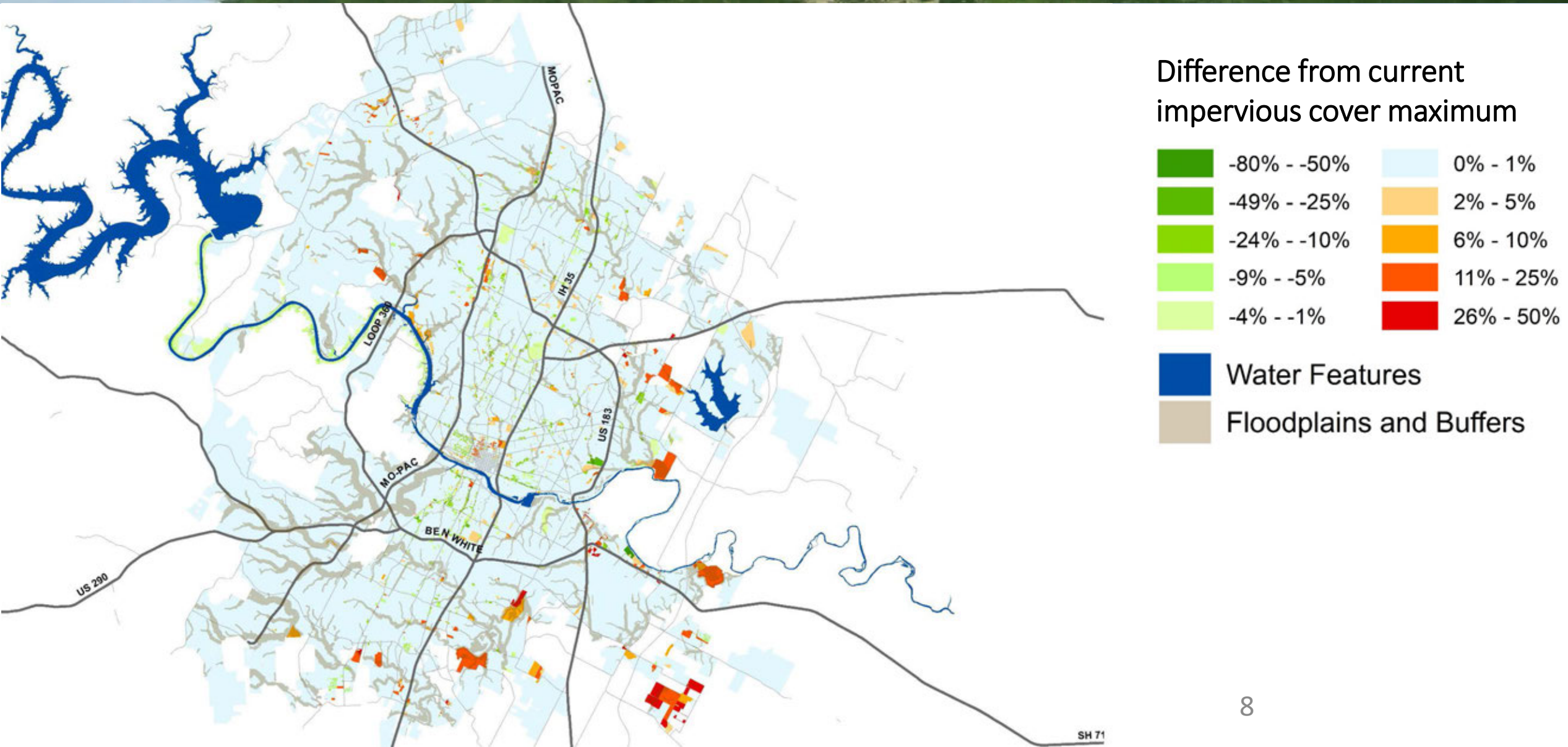
Note: This analysis does not account for environmental protections that may be located on a parcel, including stream buffers, steep slopes, Critical Environmental Feature setbacks, and protected trees. These protections potentially lower the total amount of impervious cover for any given parcel.

Impervious Cover Analysis Results (Draft 1 - updating soon)

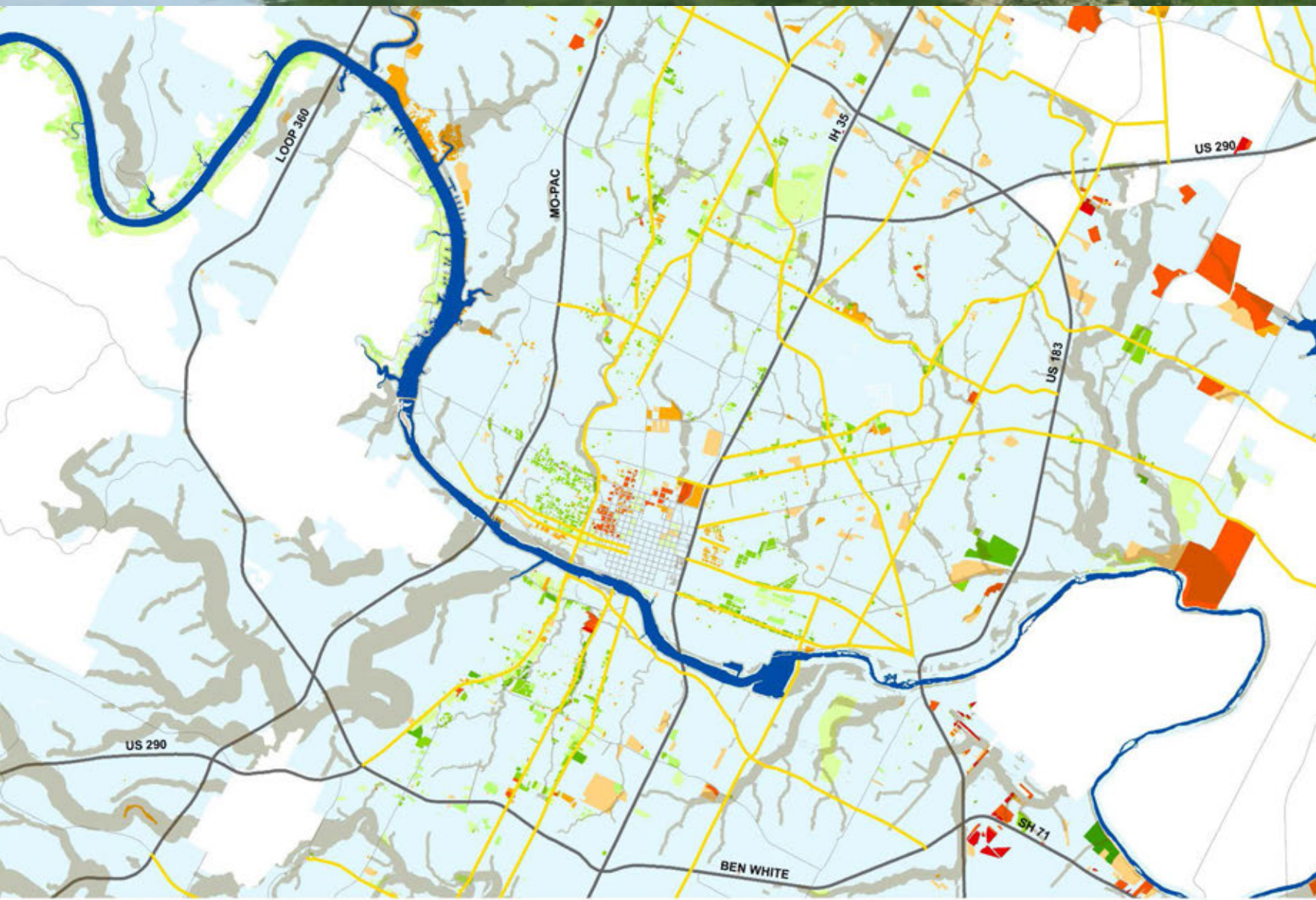
Existing Zoning	Percent of City	Existing IC	Current Max IC	Proposed Max IC	Pct Unbuilt IC Increase
Single-Family	33%	20%	34%	35%	18%
Public	12%	6%	24%	24%	8%
Commercial/Multifamily	29%	32%	67%	66%	40%
PUDs	13%	7%	67%	67%	32%
No Zoning	14%	55%	59%	59%	1%
Grand Total	100%	25%	49.6%	49.8%	100%

- Commercial, Multifamily, and PUD zoning categories represent over 70% of unbuilt impervious cover entitlements.
- Under the new proposal, these properties would have to prove no adverse impact relative to undeveloped conditions.

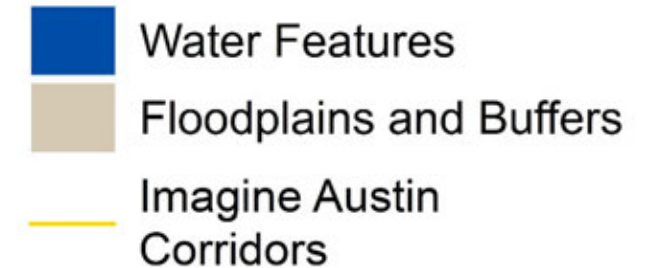
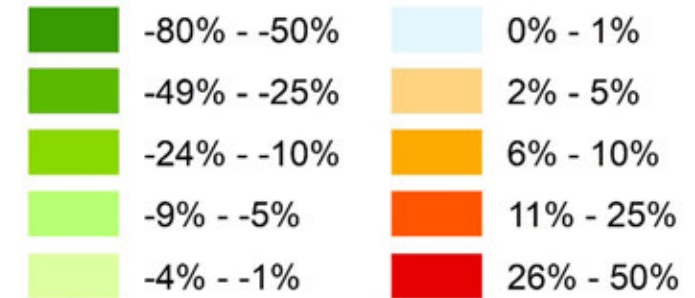
Impervious Cover Analysis Results (Draft 1 - updating soon)



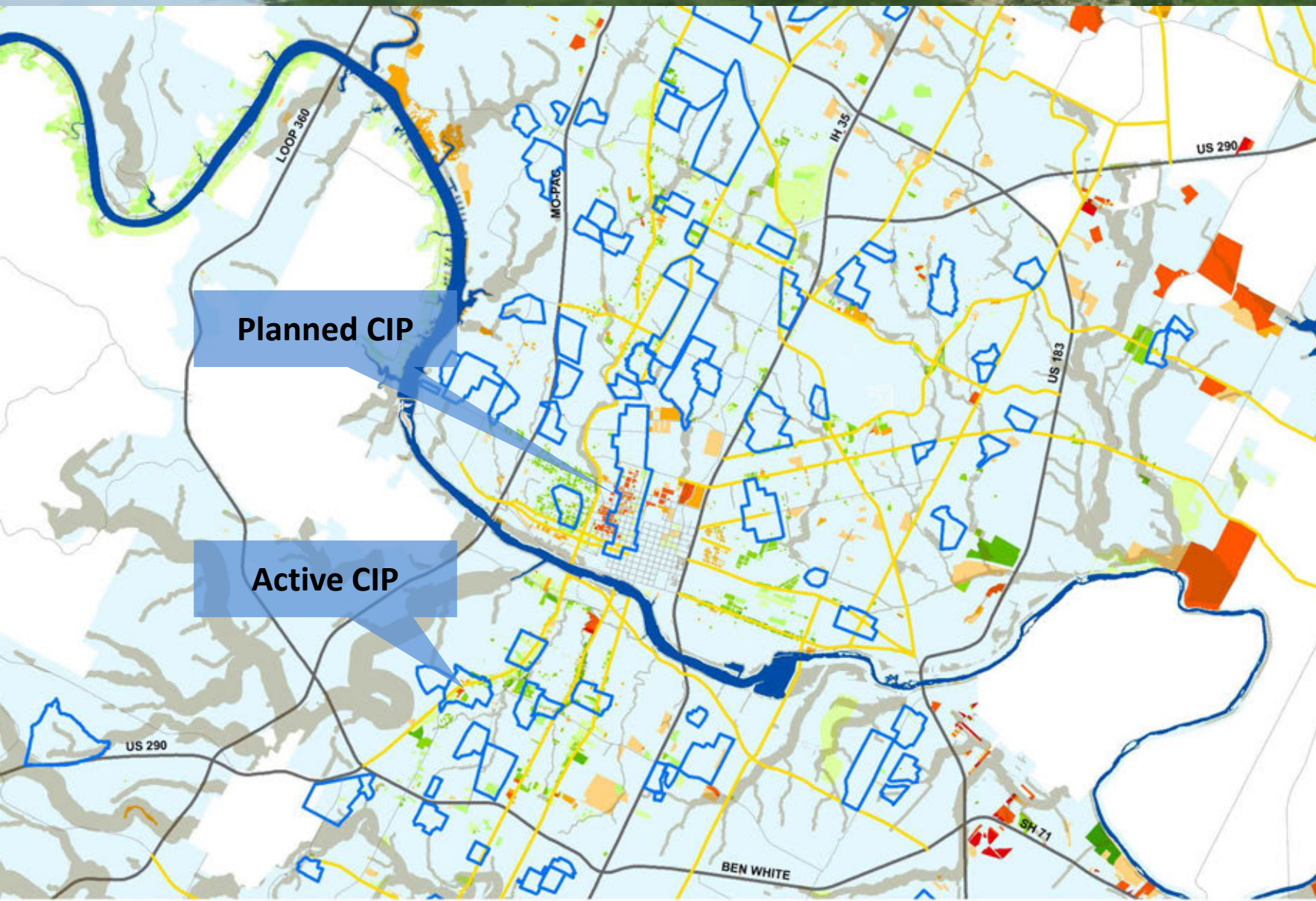
Impervious Cover Analysis Results (Draft 1 - updating soon)



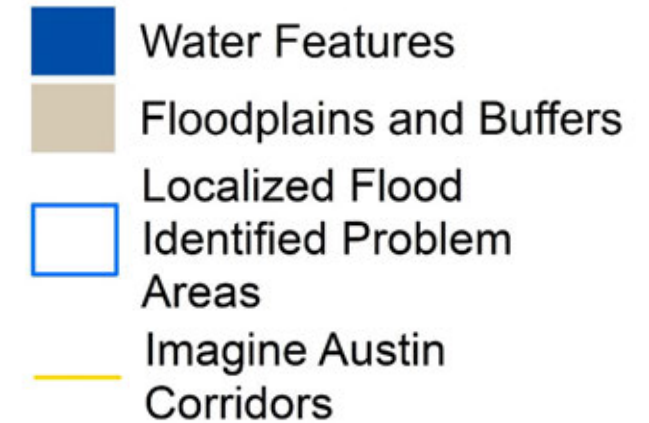
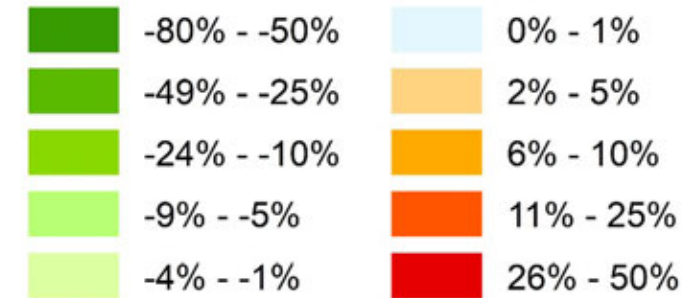
Difference from current
impervious cover maximum



Impervious Cover Analysis Results (Draft 1 - updating soon)



Difference from current
impervious cover maximum

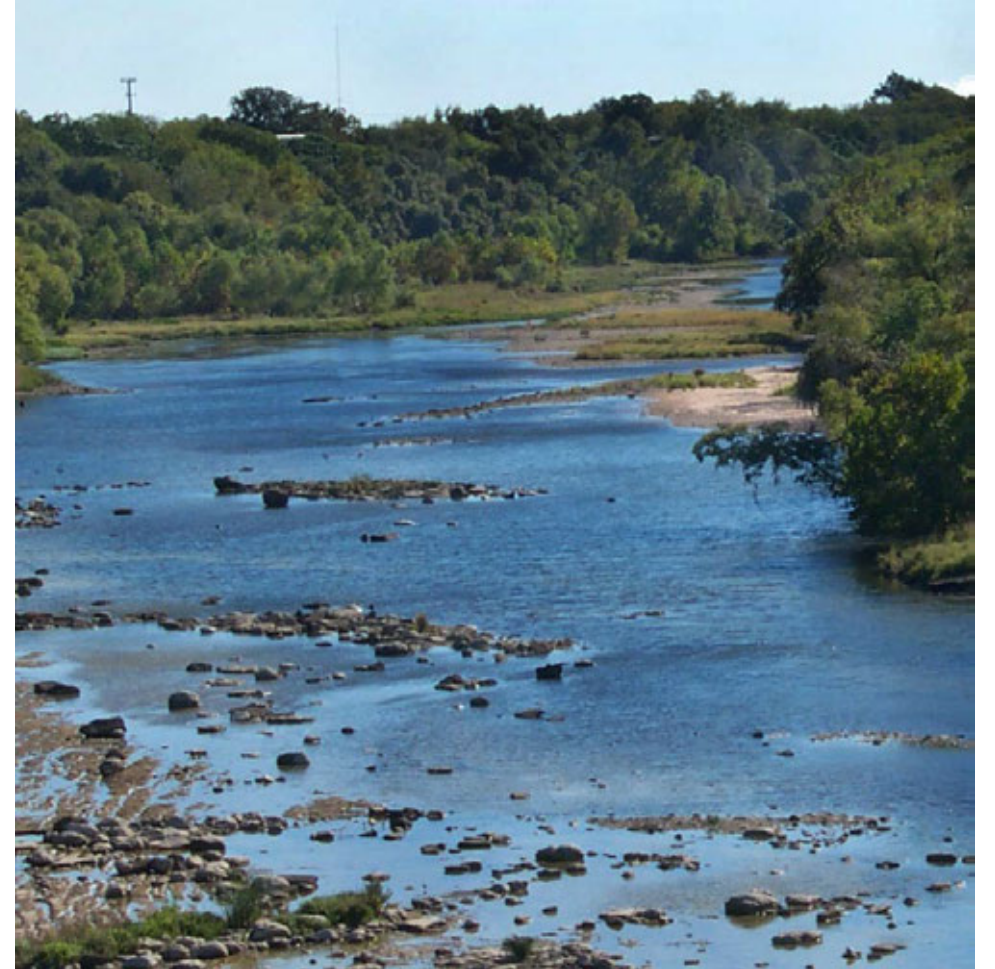


An aerial perspective sketch of a city block. The scene features several modern buildings with large windows and flat roofs. A central green space, possibly a park or plaza, is surrounded by trees and walkways. A street with several cars is visible on the right side. The overall style is a colorful, hand-drawn architectural rendering.

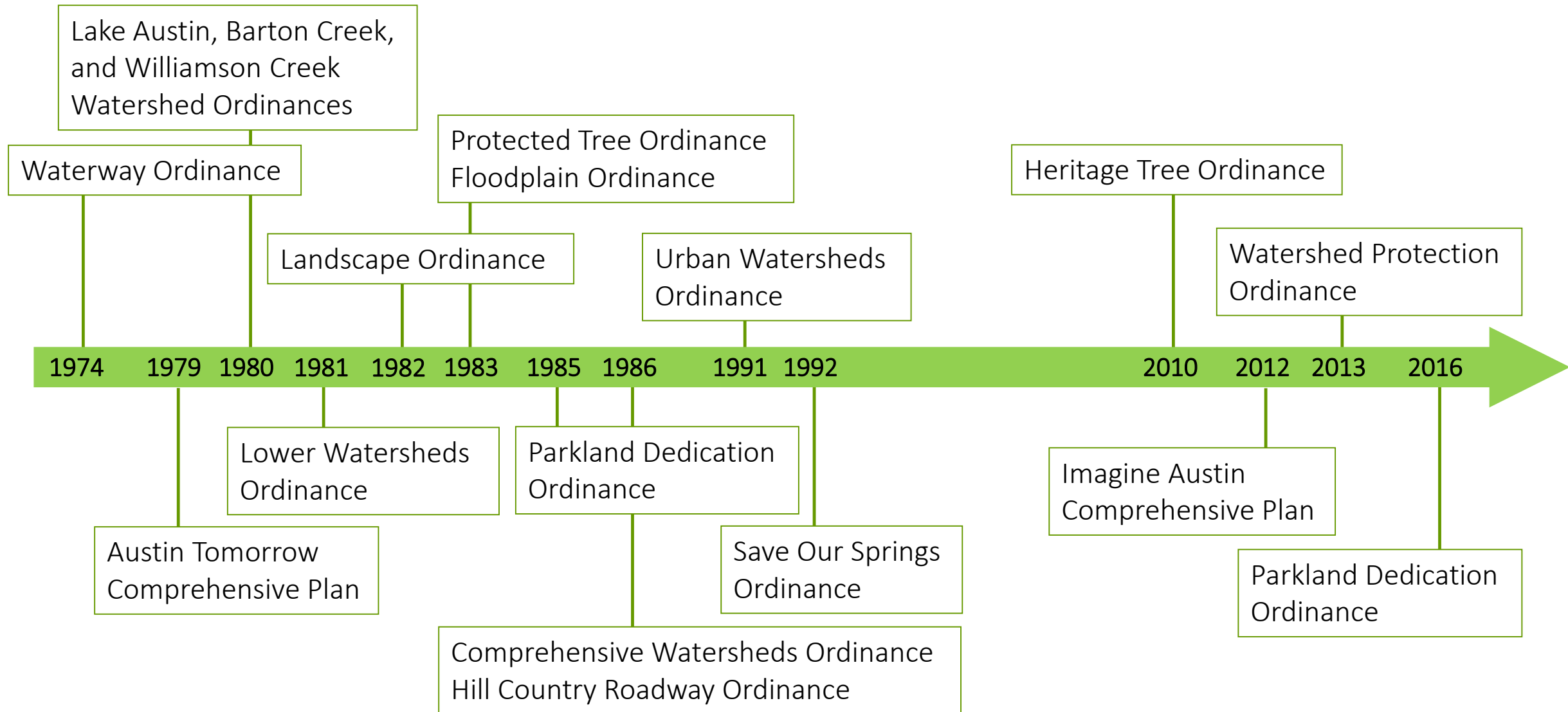
CodeNEXT Proposal

Maintain Existing Watershed Protections

- CodeNEXT proposes to preserve existing watershed regulations, including:
 - Floodplain protections
 - Drainage standards
 - Stream & lake buffers
 - Watershed impervious cover limits
 - Critical Environmental Features
 - Steep slope protections
 - Cut and fill limits
 - Erosion & sedimentation controls
 - Structural stormwater controls
 - Tree protections



History of Environmental & Drainage Regulations

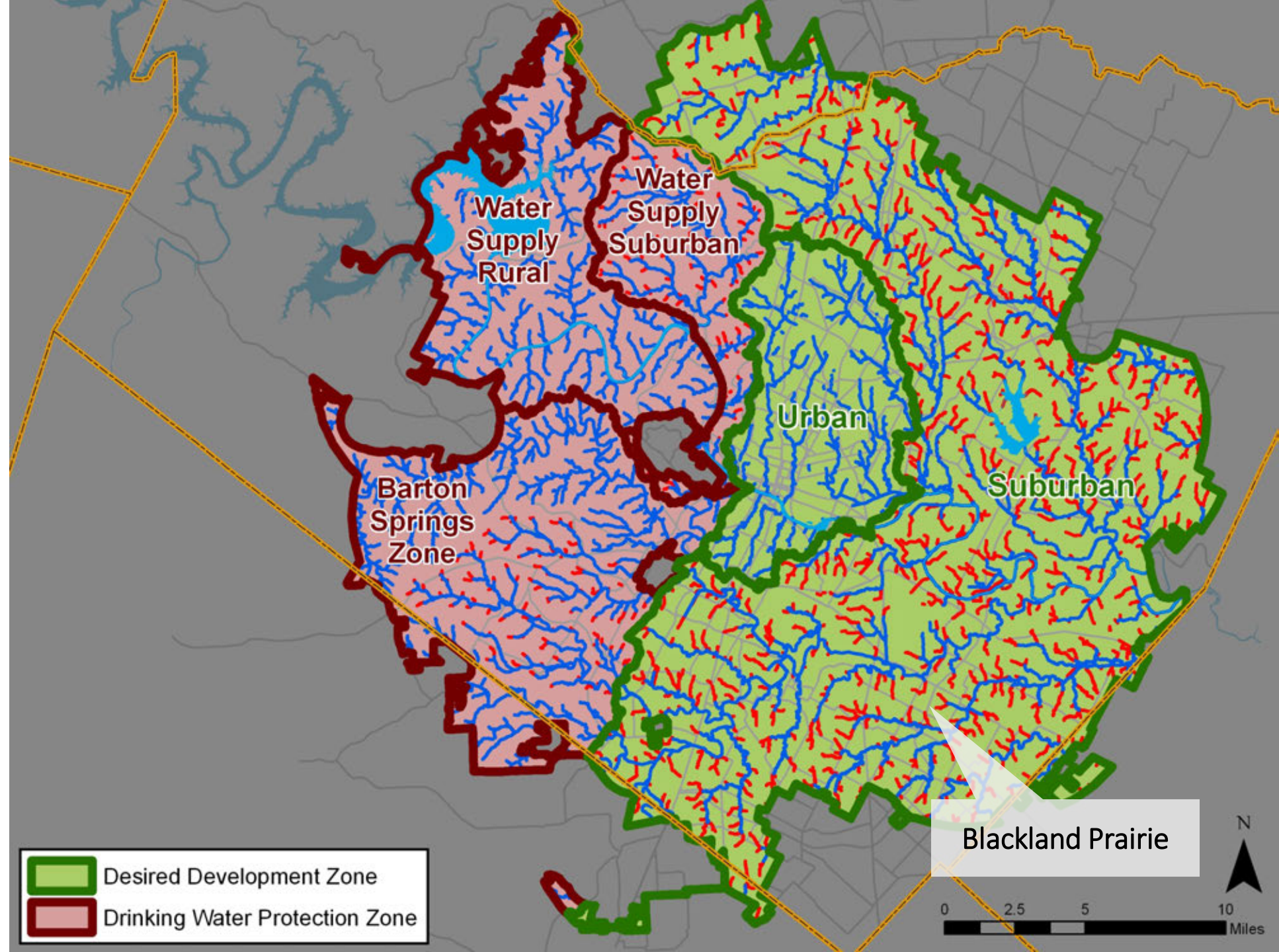


Existing Watershed Regulations

- CodeNEXT proposes to preserve existing watershed regulations, including:



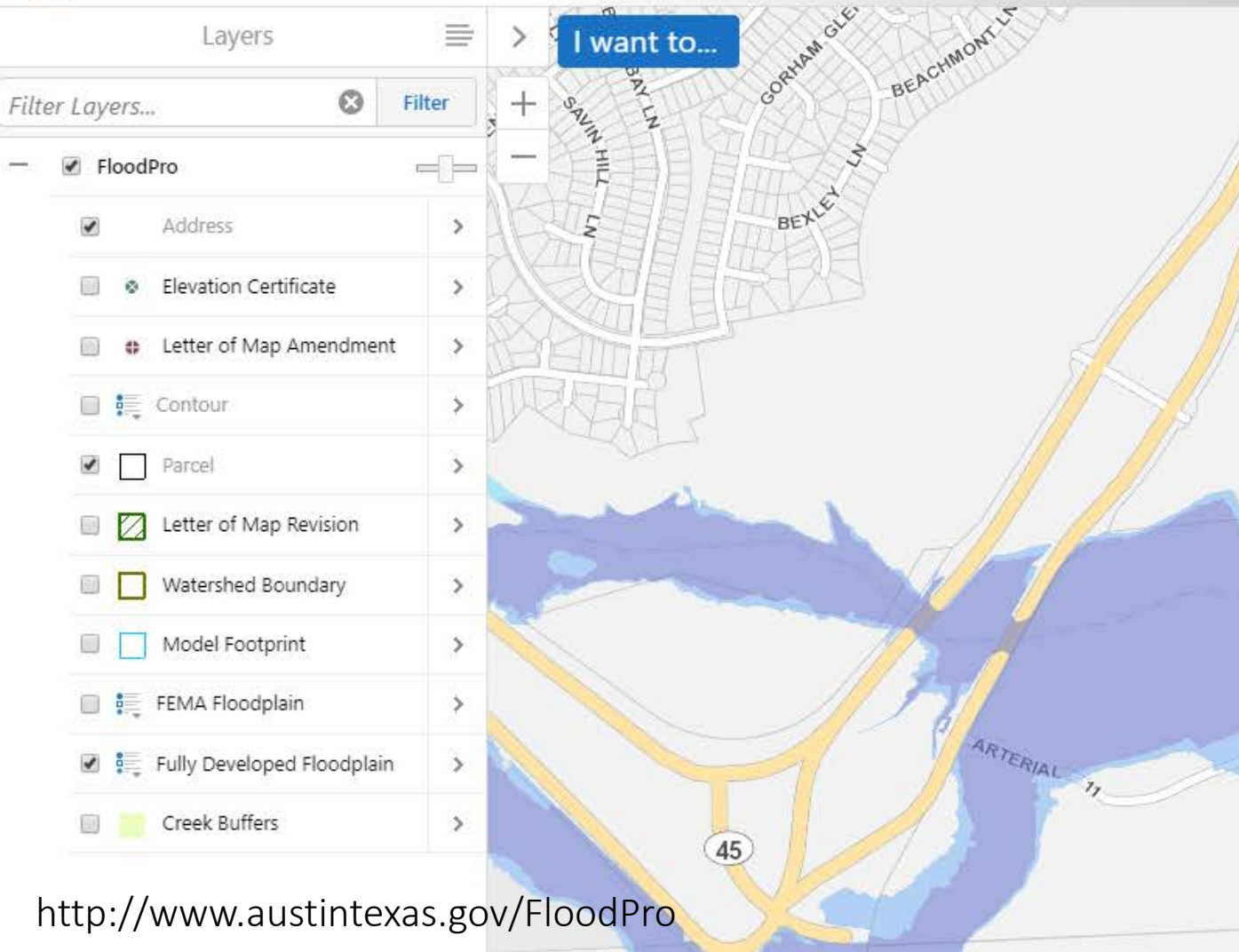
2013 Watershed Protection Ordinance extended protection to 400 miles of headwaters buffers, increasing protection of eastern Blackland Prairie creeks by 90%





Watershed Regulations: Flood Mitigation



FloodPro



WPD updates flood models to reflect changing conditions and improved technology



FLOODPLAIN CHANGES

Is Your Home at Risk?

The City of Austin has completed new floodplain studies that indicate revised flood risks for several Austin watersheds, affecting thousands of properties. You are receiving this notice because we believe your property may be affected. Please keep an eye out for a more detailed letter in the next week.

The City restudies creeks to ensure accurate floodplain maps, which help both the City and the public prepare for flooding. The City has already begun using the new studies to regulate development. However, new FEMA maps will not be used for flood insurance purposes until late 2015.

Creeks Studied

- Boggy
- Bull and West Bull
- Carson
- Cottonmouth
- Dry Creek East
- Fort Branch
- Shoal
- Tannehill

PUBLIC MEETINGS

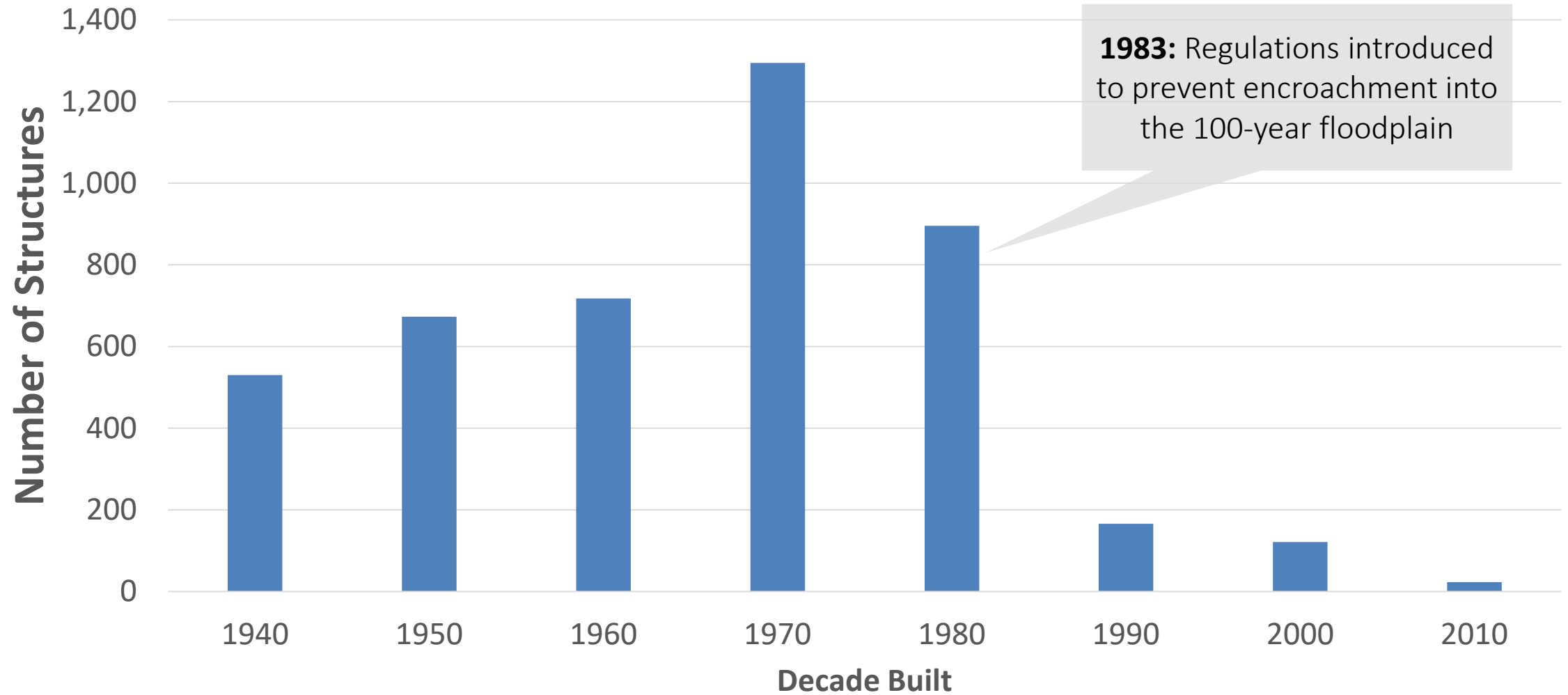
Central Austin Friday, September 20, 1:00 p.m. One Texas Center, Room 325 505 Barton Springs Road Austin, Texas 78704	East Austin Monday, September 23, 6:30 p.m. Carver Branch Library 1161 Angelina Street Austin, Texas 78702	Northwest Austin Tuesday, September 24, 6:30 p.m. Northwest Recreation Center 2913 Northland Drive Austin, Texas 78757
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512-974-2843
Para información en español,
llame al 512-974-2843

www.austintexas.gov/floodplainchanges

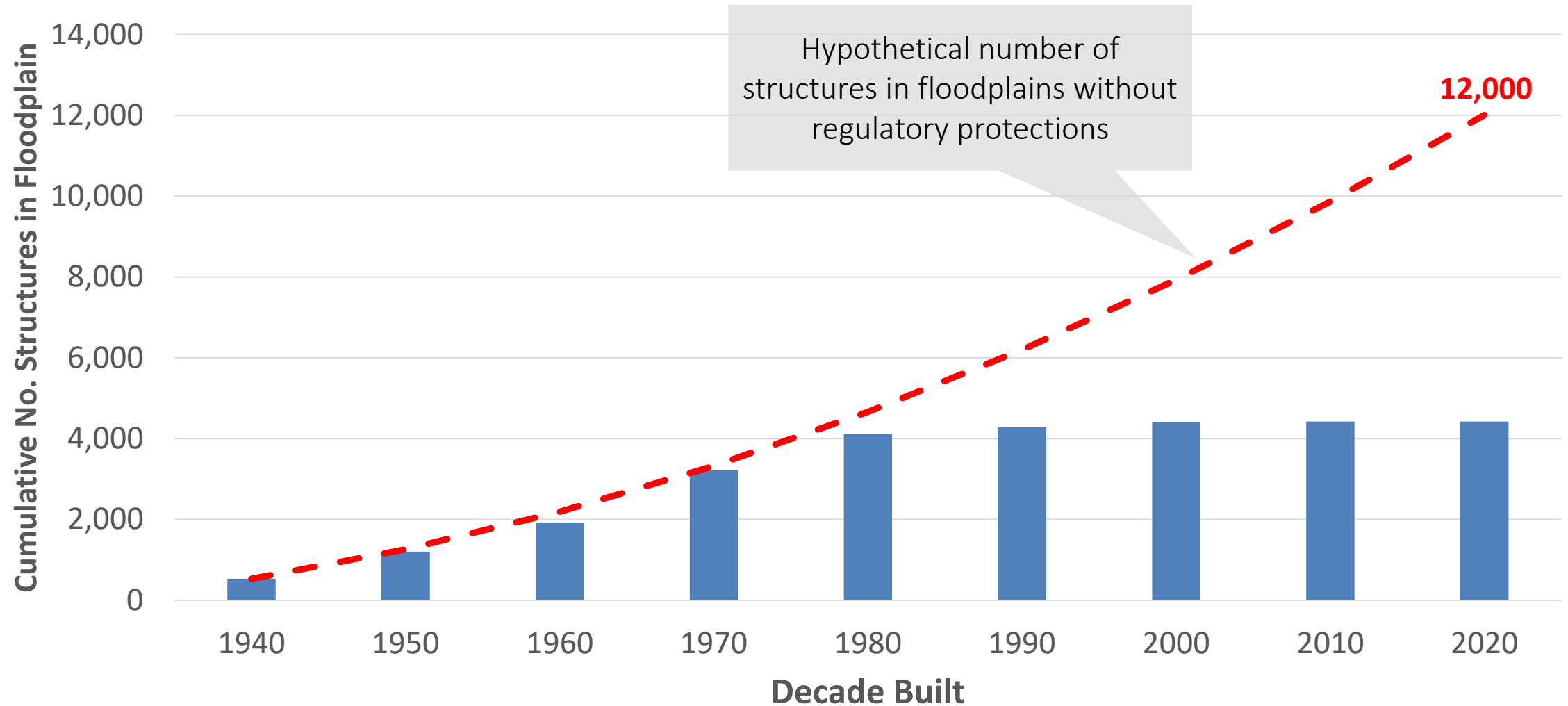
<http://www.austintexas.gov/FloodPro>

Watershed Regulations: Flood Mitigation



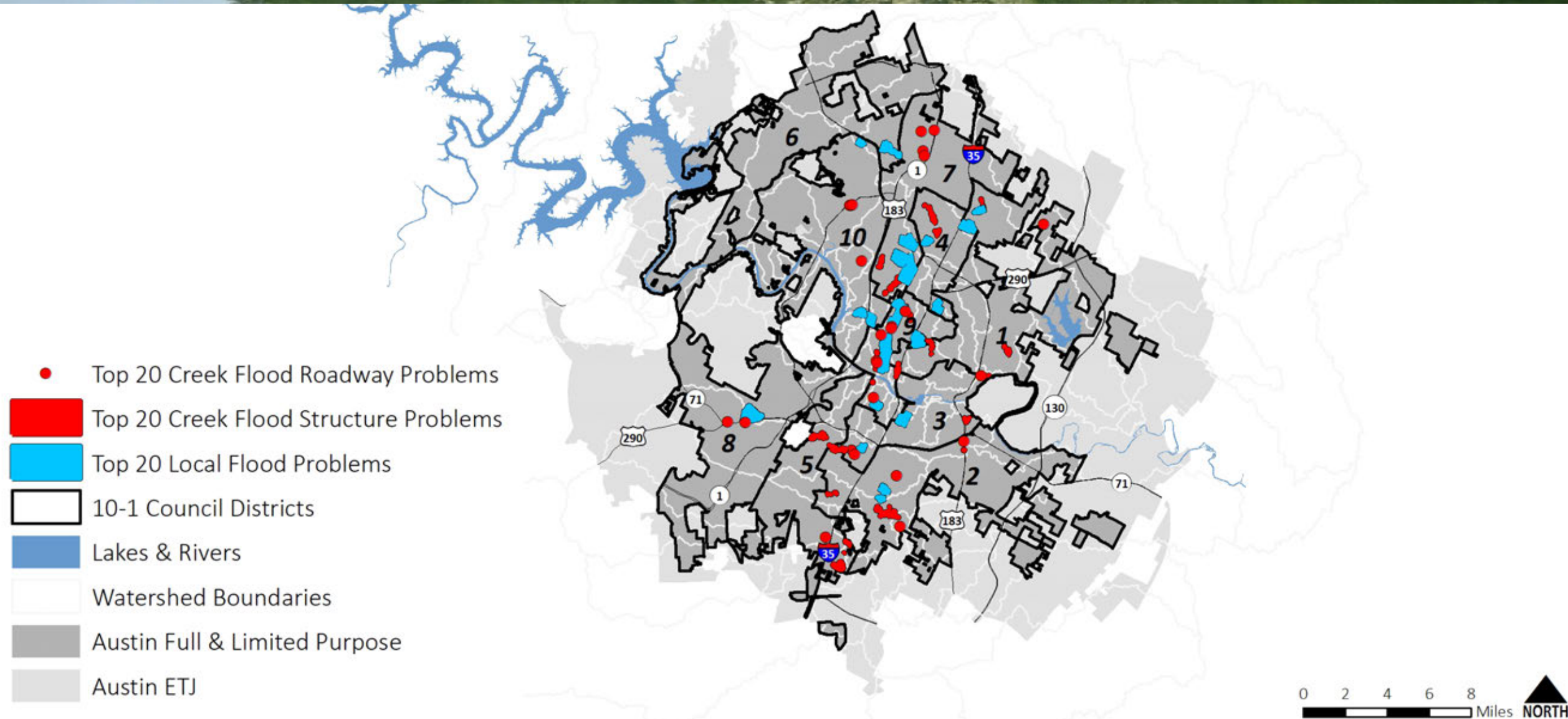
Count of structures built in the 100-year floodplain by decade

Watershed Regulations: Flood Mitigation



Count of structures built in the 100-year floodplain by decade

Watershed Challenges: Flood Mitigation



Watershed Challenges: Flood Mitigation

- Older sites built before drainage regulations were introduced in 1974 lack detention facilities and are often highly impervious
- Runoff from these sites can contribute to downstream flooding and erosion
- Redevelopment in Austin's central core has put even greater pressure on existing infrastructure, which is often aging and undersized



Watershed Challenges: Flood Mitigation

- Current code requires commercial & multifamily projects and residential subdivisions demonstrate no additional adverse flooding
- Redevelopment projects that do not increase impervious cover or change drainage patterns are generally not required to provide flood mitigation
- As Austin grows and redevelops, key opportunities for improvement are being missed in areas that already experience flooding



CodeNEXT Proposal: Flood Risk Mitigation for Redevelopment

- Redevelopment to contribute its fair share to address existing drainage issues by accounting for existing impervious cover
- Tools for mitigating flood impacts & reducing peak flows include:
 - Detention
 - Conveyance
 - Regional Stormwater Management Program (RSMP)



Subsurface Detention



Parking Lot Detention



Conveyance Upgrades



Regional Solutions

Example 1: Maria's Taco Express & Walgreens

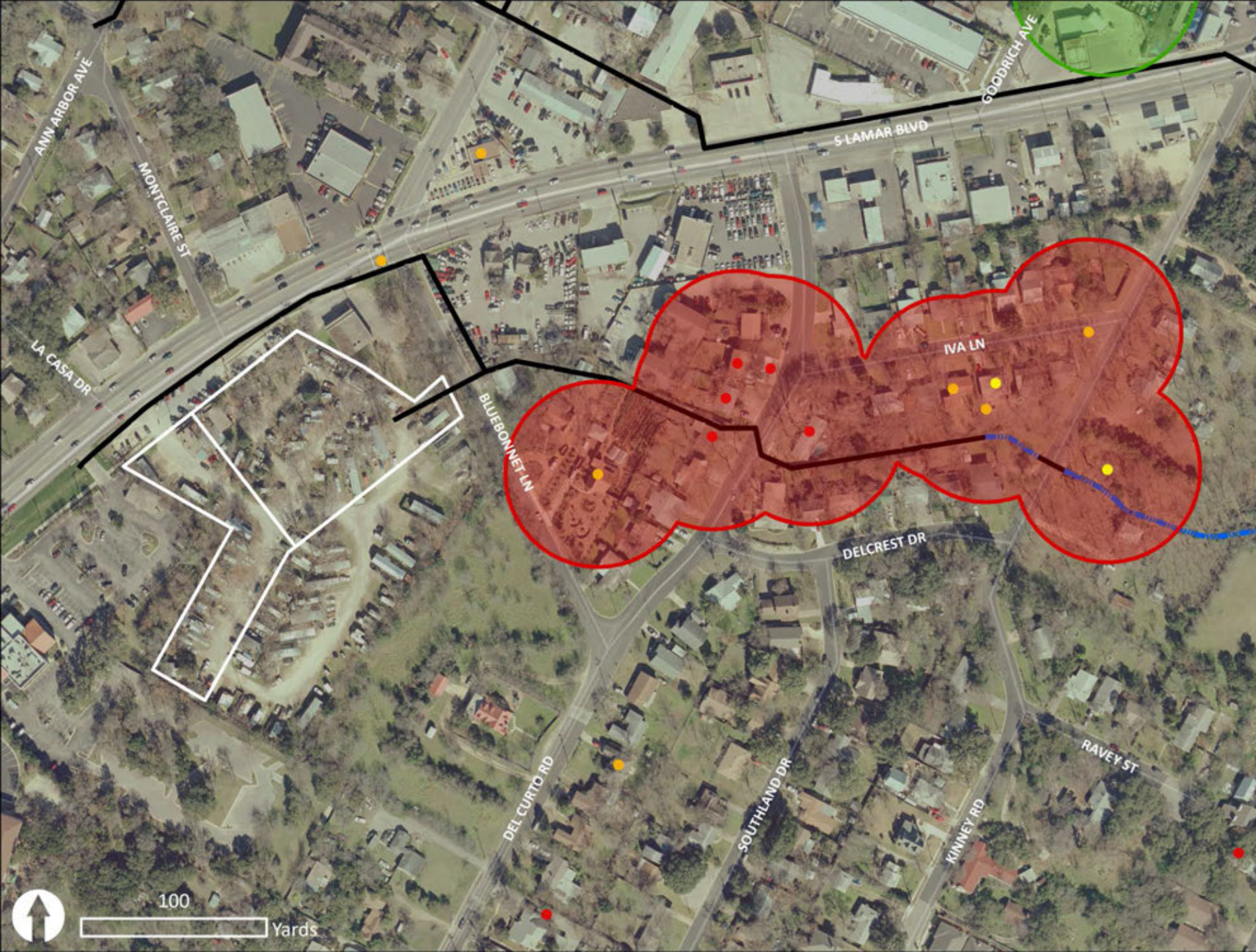
Original Site

Maria's Taco
Express & Mobile
Home Park
2.9 acres



Original Site

Localized Flood
complaint points



2003



Redevelopment

Maria's Taco
Express &
Walgreens

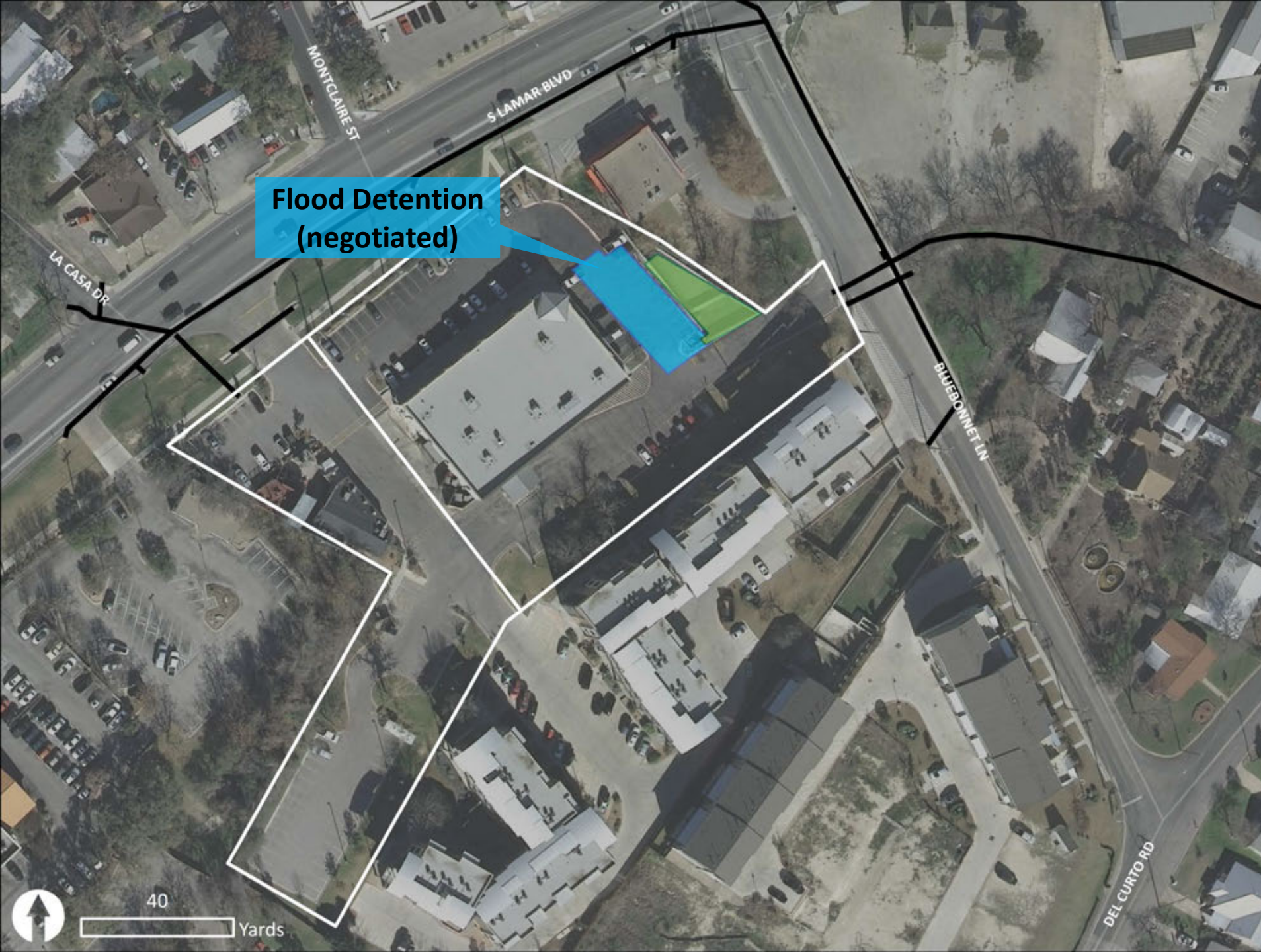
2007



Redevelopment

Water quality controls (required by current code)

2007



Flood Detention
(negotiated)

Redevelopment

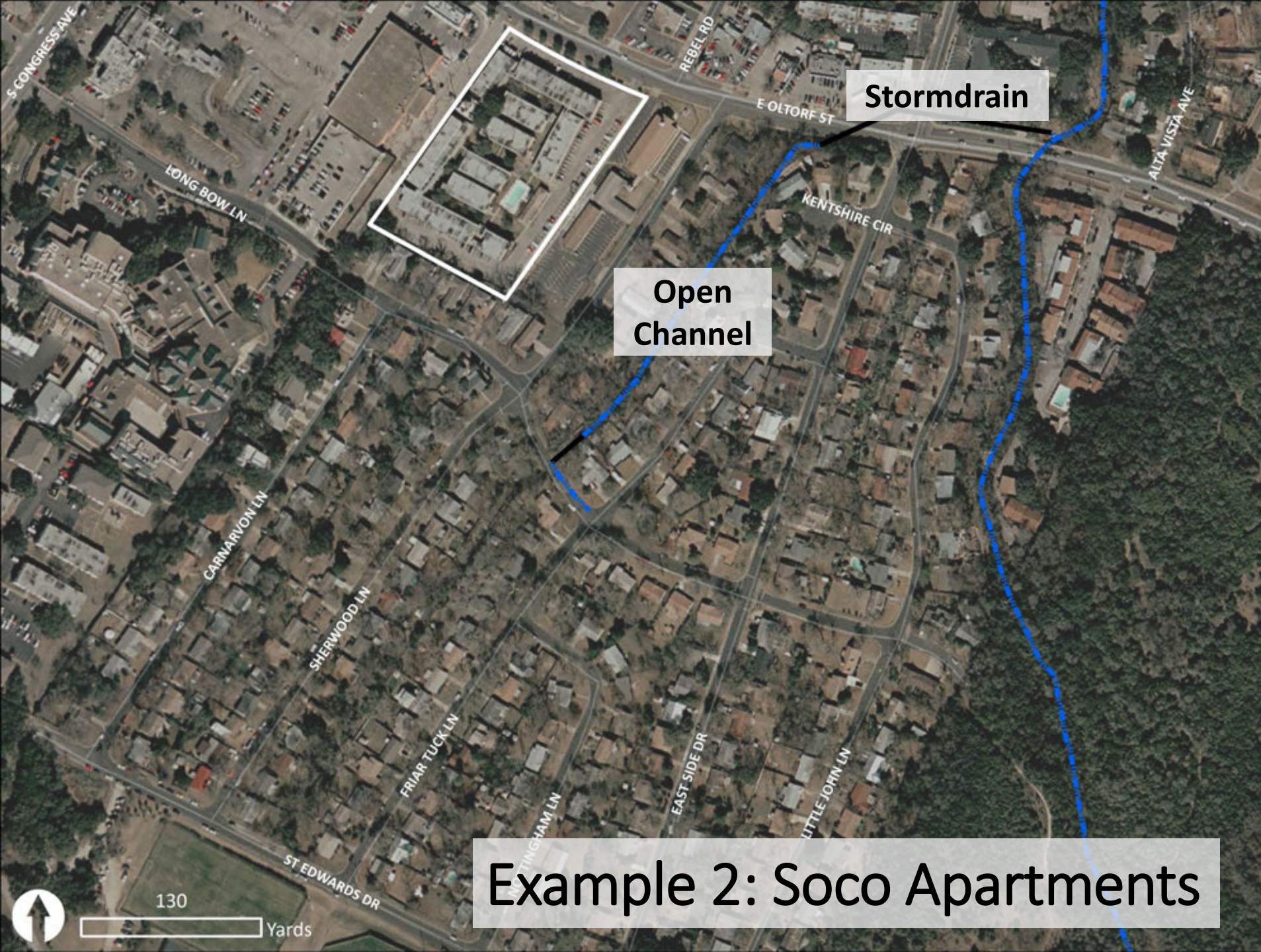
Added flood
detention vault
under parking lot



Redevelopment

Upgraded
drainage
infrastructure

2007

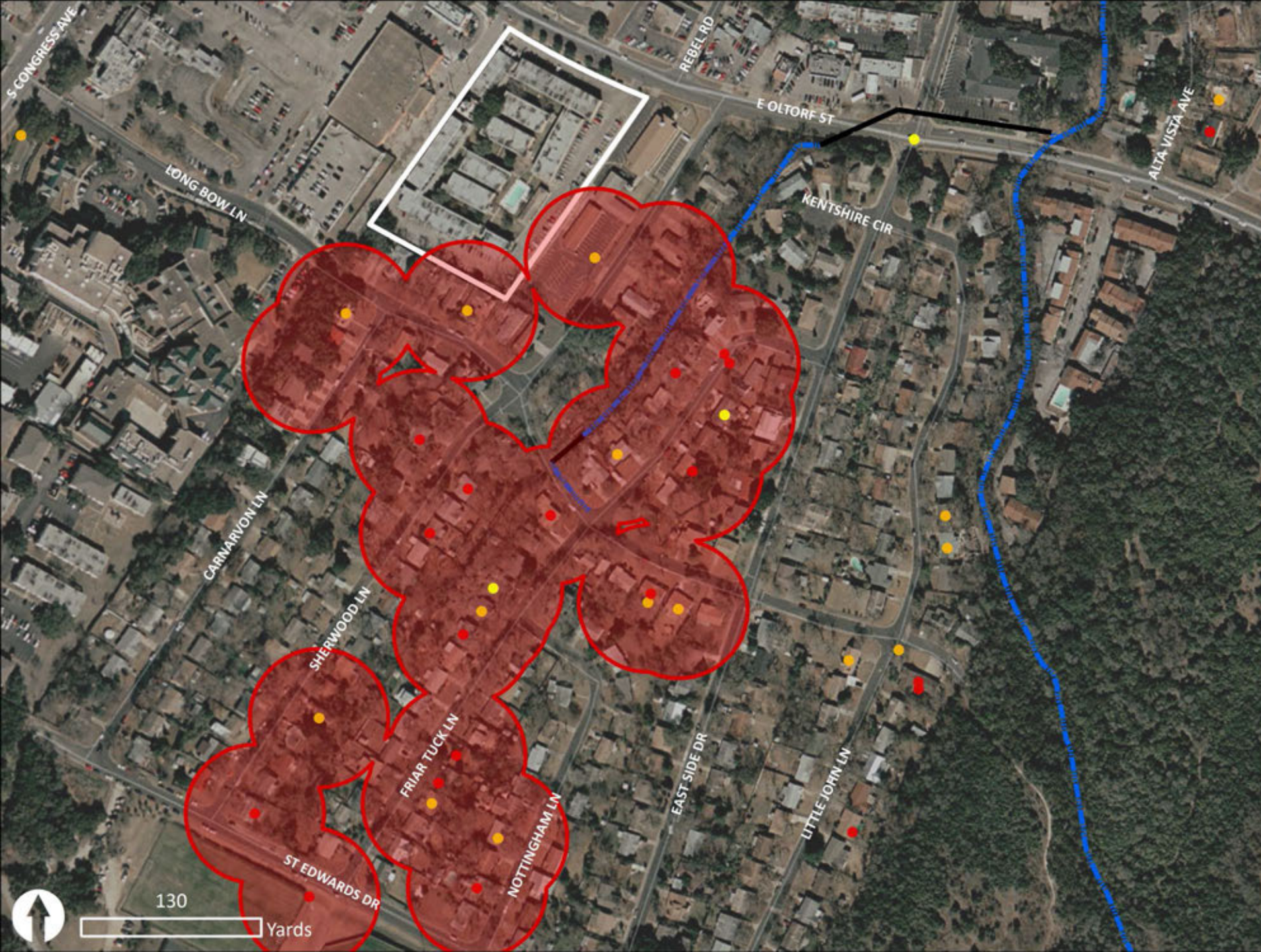


Original Site

Sunnymeade
Apartments
3.96 acres

Example 2: Soco Apartments

2008



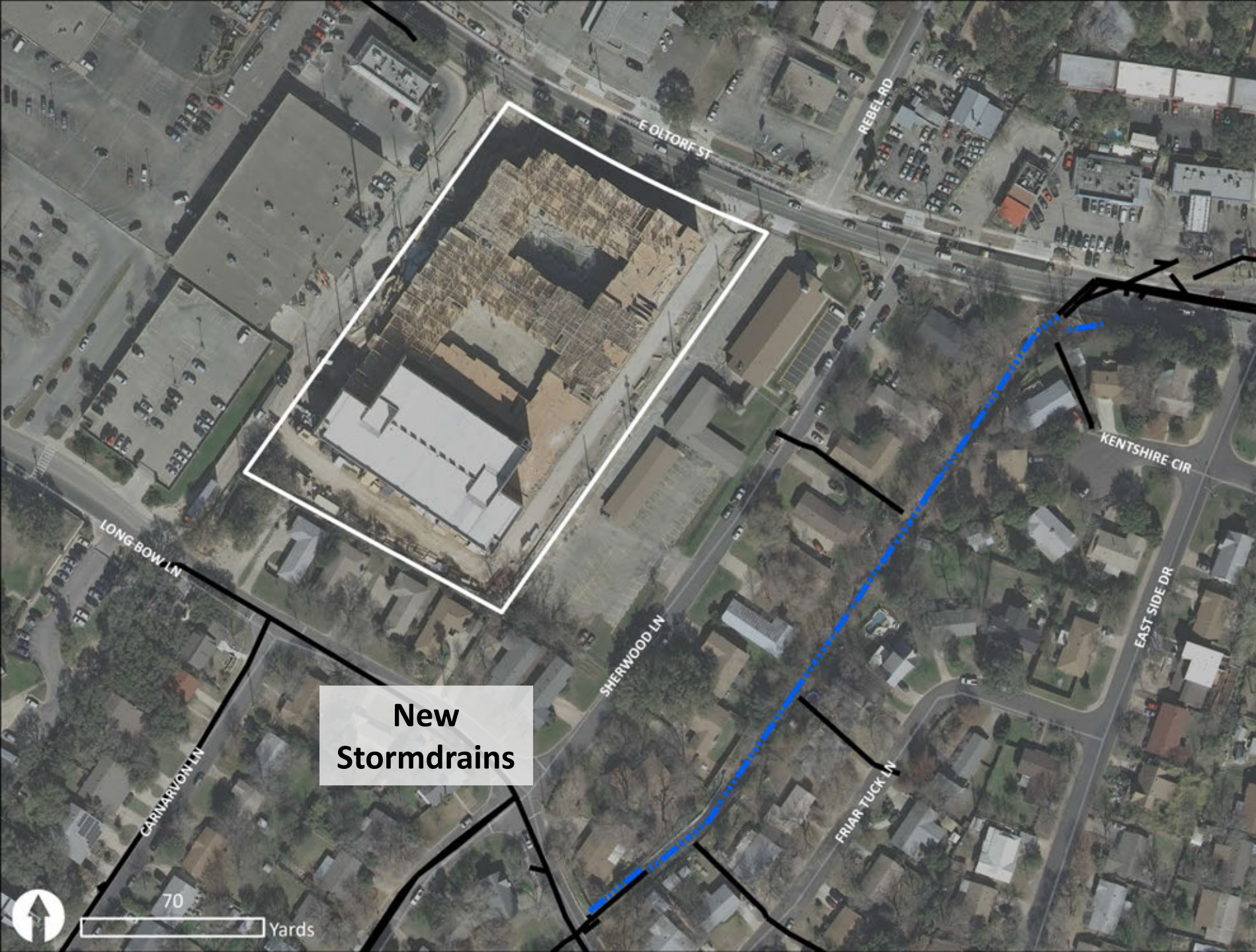
Original Site

Localized Flood
complaint points

2008

Redevelopment

City
improvements
with Longbow Ln
CIP project



New
Stormdrains

2012

Original Site

No detention
required

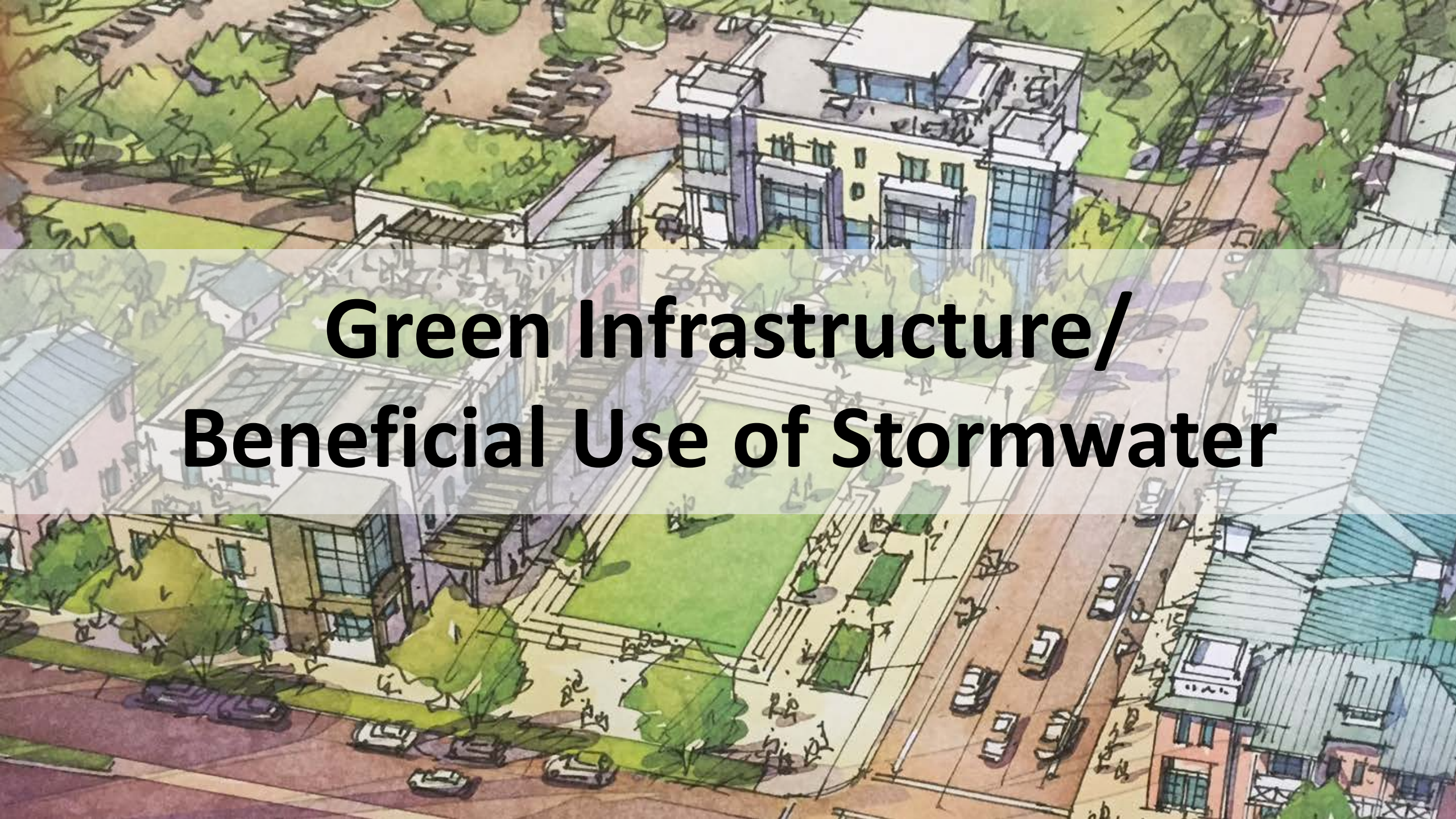


2008

Redevelopment

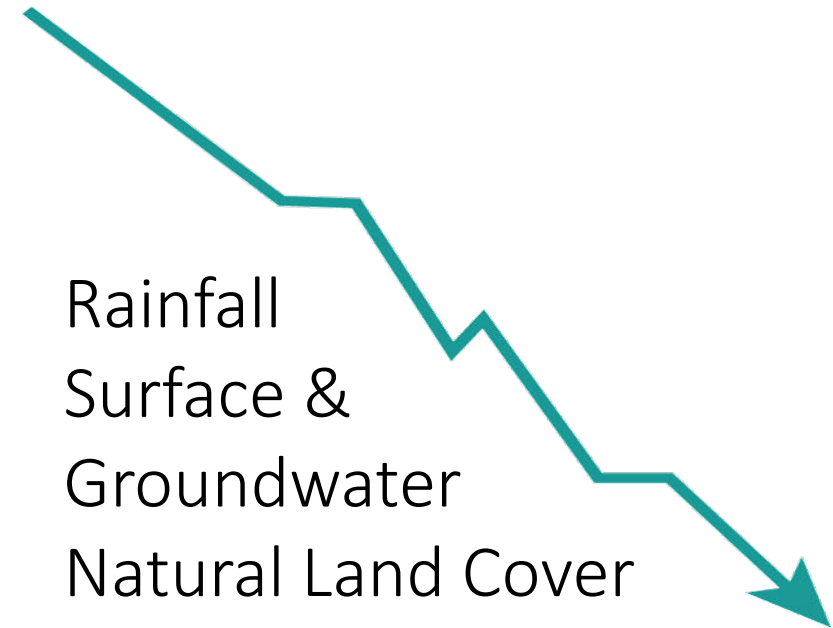
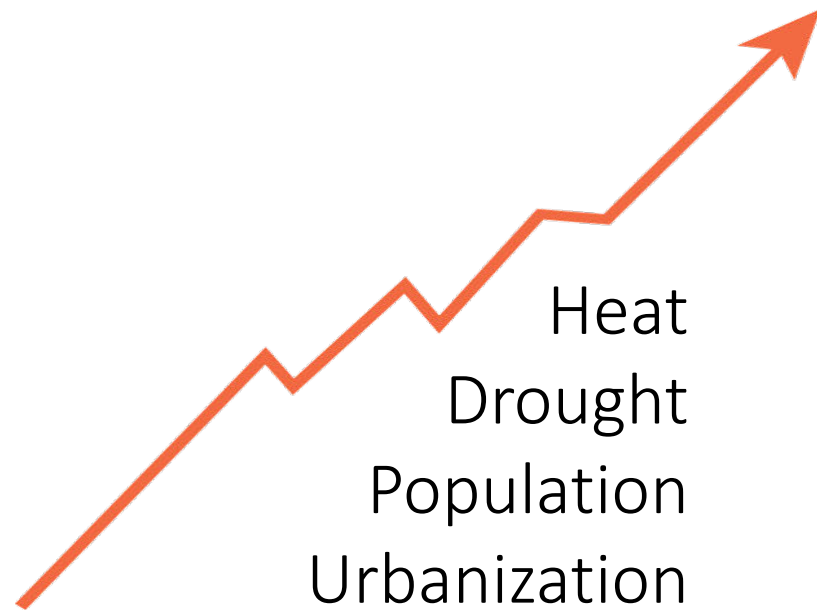
Added flood
detention
chambers



An aerial perspective sketch of a city block. The central focus is a large, multi-story building with a flat roof and several smaller structures attached. To the left of this building is a large, rectangular green space, possibly a park or a sports field, with some trees and a path. To the right is a street with several cars parked and driving. The surrounding area includes other buildings, trees, and parking lots. The overall style is a loose, artistic sketch with a focus on green spaces and urban infrastructure.

Green Infrastructure/ Beneficial Use of Stormwater

Watershed Challenges and the Need for Water Stewardship



Current requirements for stormwater controls do not significantly address goals of enhancing creek baseflow, sustaining on-site vegetation, and reducing potable water consumption.

CodeNEXT Proposal: Green Infrastructure & Beneficial Use of Stormwater

- **Infiltrate** to mitigate the impacts of impervious cover
 - Improve stream baseflow
 - Pollutant removal
 - Reduce creek scour and erosion
 - Improve aquatic habitat
 - Enhance recreational values
- **Conserve** potable water indoors and outdoors
- **Green stormwater infrastructure** for resiliency





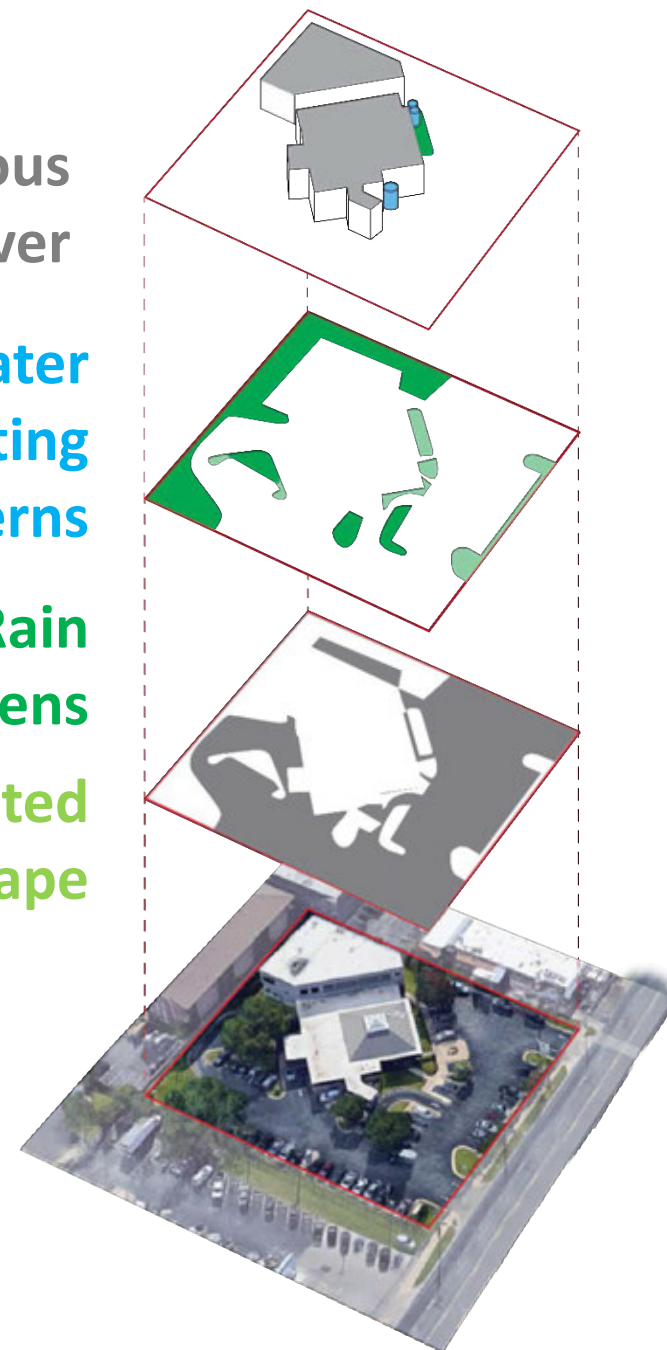
Impervious
Cover

Rainwater
Harvesting
Cisterns

Rain
Gardens

Irrigated
Landscape

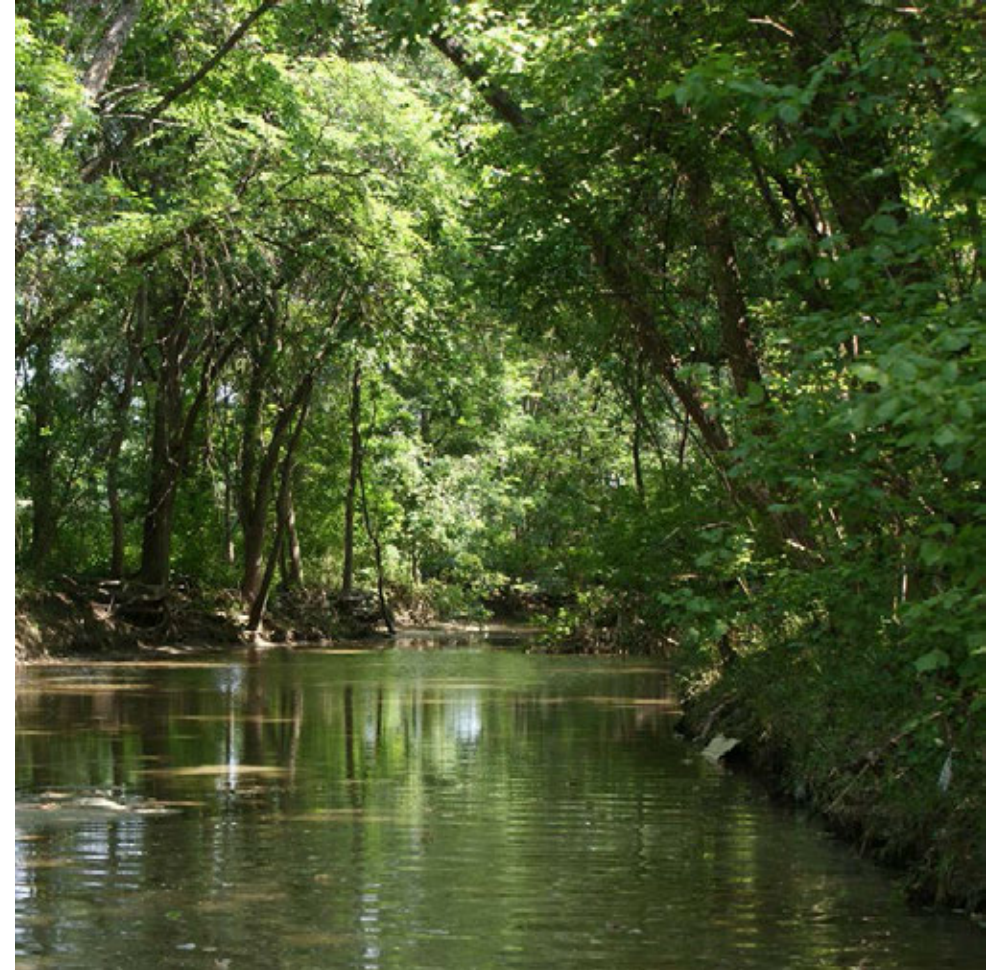
Toilet
Flushing



Additional Water Quality Changes

Additional water quality proposals include:

- Decompaction of soils after construction
- Revised creek crossing requirements for streets
- Limited payment-in-lieu option for small, infill subdivisions in Suburban Watersheds
- Improved code organization



An aerial architectural sketch of a city block. The scene features several modern buildings with large glass windows and flat roofs. A central green space with trees and a small plaza is visible. A street with cars and a sidewalk with trees runs along the right side. The overall style is a loose, artistic sketch with vibrant colors like greens, yellows, and blues.

Next Steps

Flood Risk Mitigation for Residential Infill and Redevelopment

- Seeking to balance affordability goals with avoidance of drainage problems
- Analyses in progress to assess extent and severity of potential impacts
- Opportunity to lessen review burden for missing middle housing
- Assessing potential impacts on DSD resources & permitting process



Additional Analysis and Next Steps

- Impervious cover watershed analysis (updated)
- Modeling for estimating creek flood and localized flood impacts:
 - Redevelopment proposal
 - Residential infill
- Missing Middle: drainage & environmental considerations
- Continue work (e.g., capital projects) for existing drainage concerns
- Balance community priorities



Contact Information

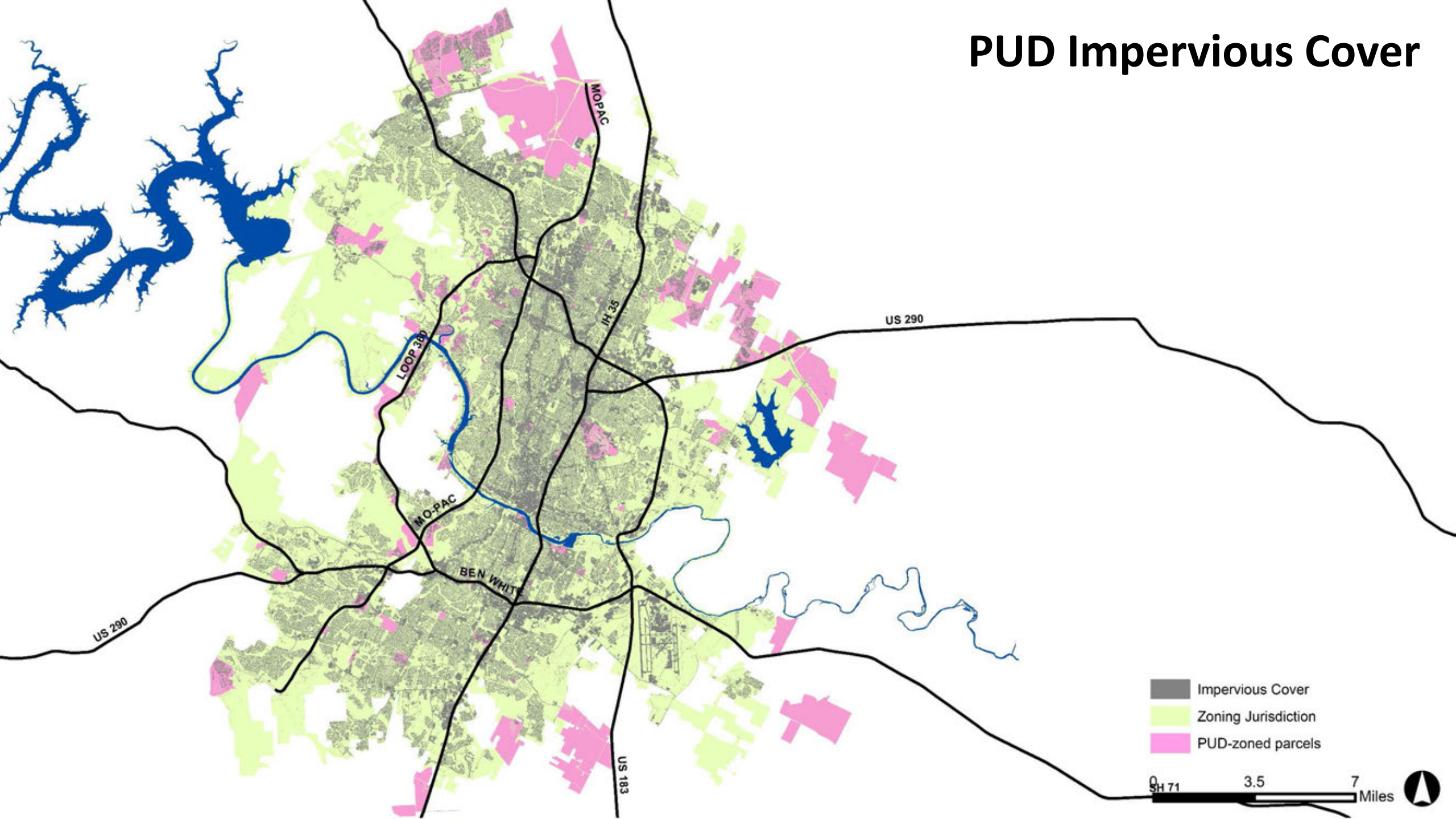
Matt Hollon

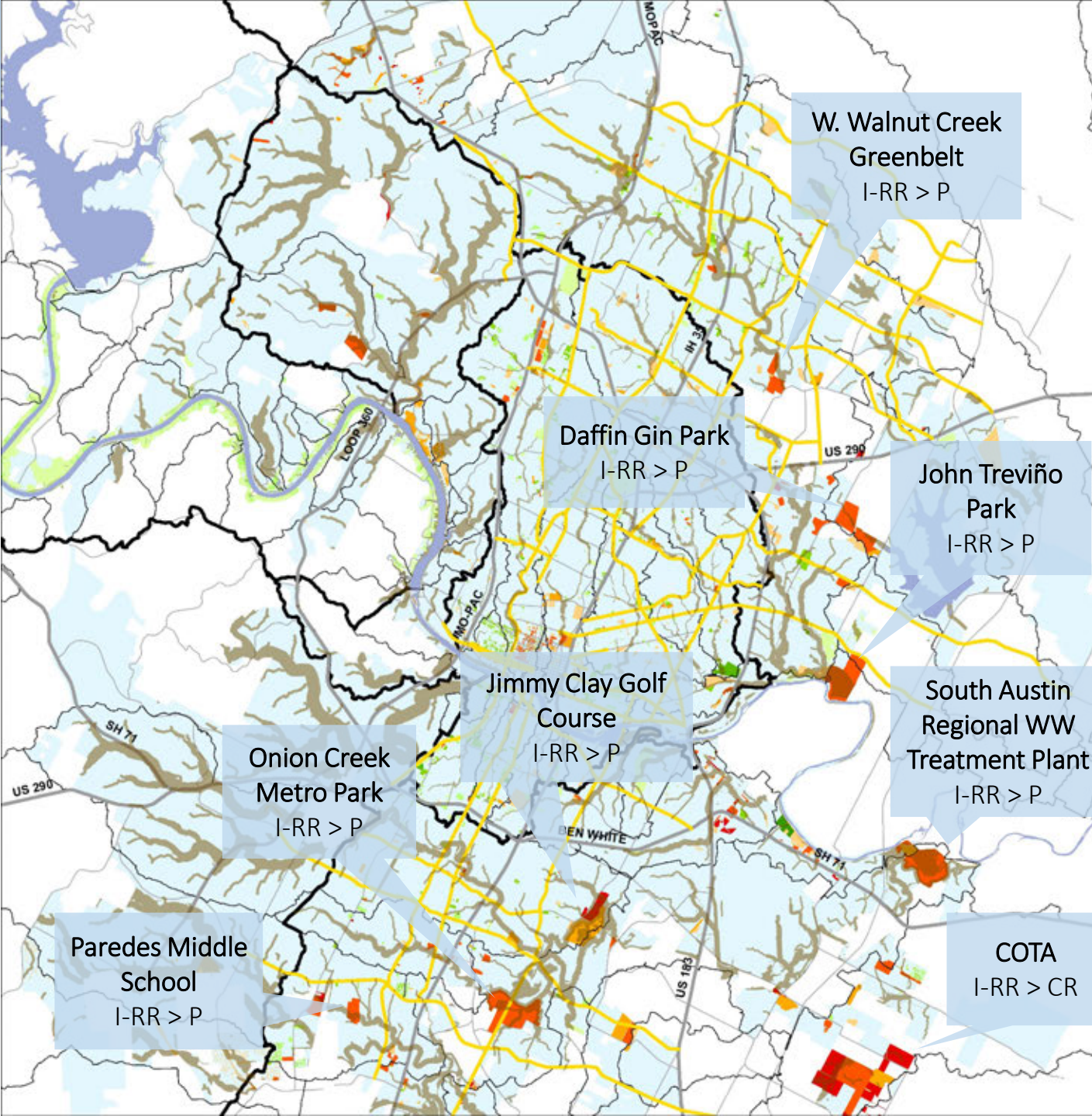
Watershed Protection Department
City of Austin

(512) 974-2212

matt.hollon@austintexas.gov

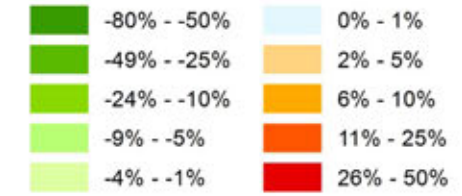
PUD Impervious Cover





Full Purpose Jurisdiction

Difference from Current Impervious Cover Max



Floodplains and Buffers

Water Features

Imagine Austin Corridors

Parcels with the largest increases in max IC is largely attributable to rezoning from I-RR to a zone in alignment with its current land use

This map has been produced by the Watershed Protection Department for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness.

0 1 2 4 Miles

