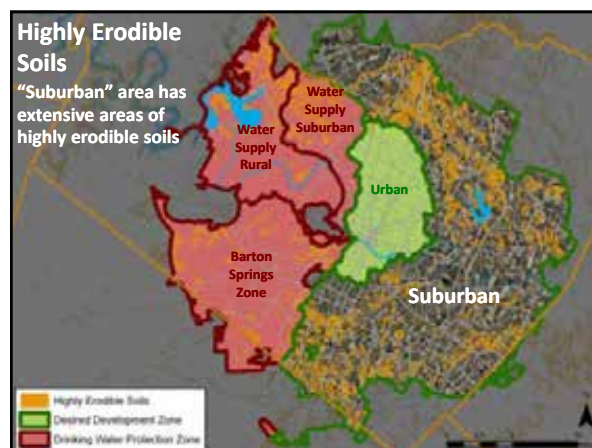
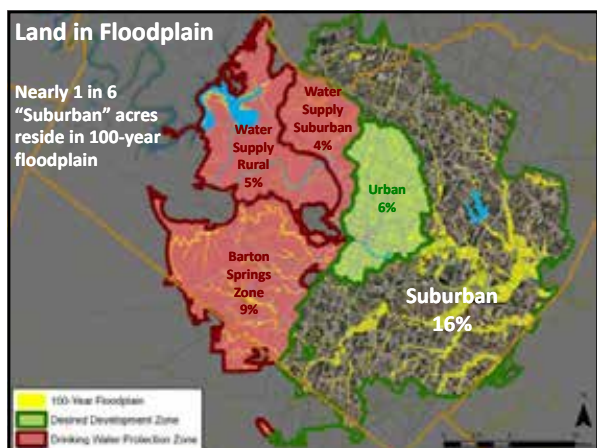
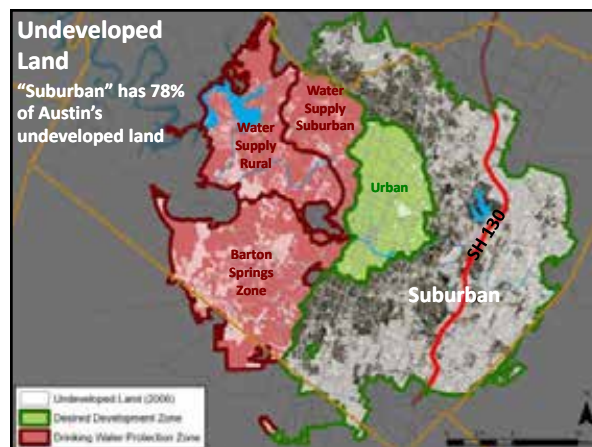
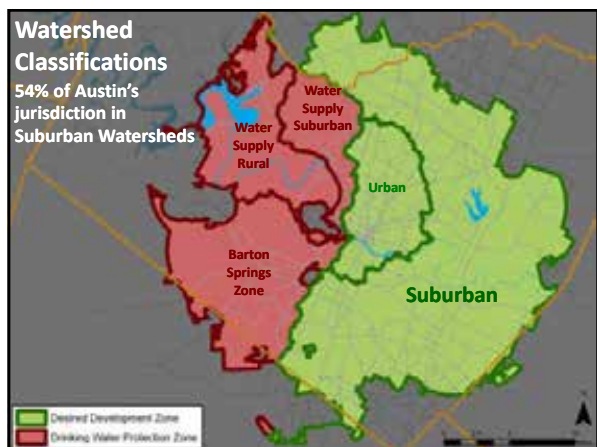
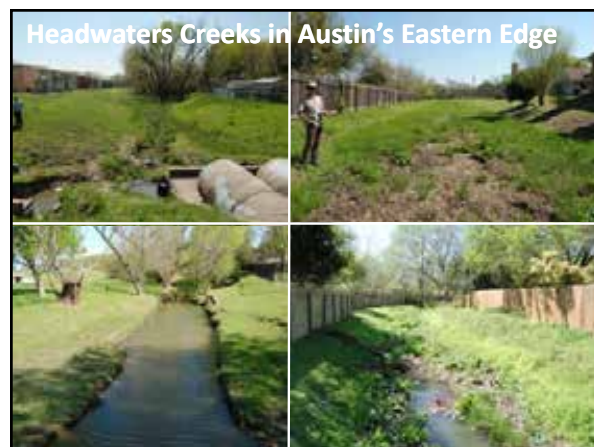
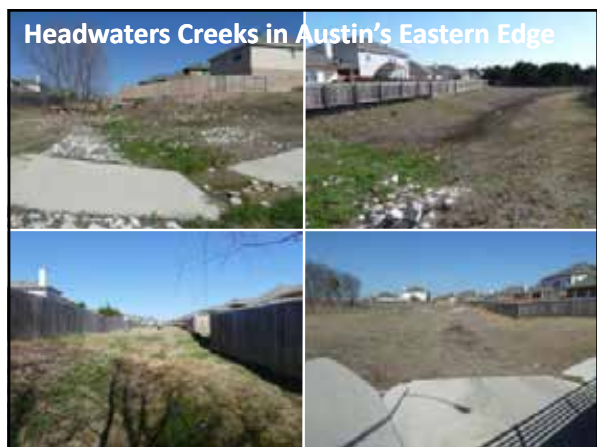
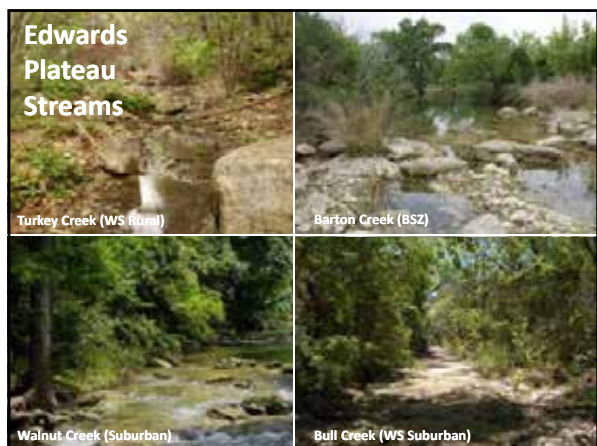


### Presentation Overview

- Austin's Creeks & Watershed Concerns
- Council Directive for WPO
- WPO Highlights
- Coordination with Imagine Austin
- Schedule/Next Steps
- Questions

WPO = Watershed Protection Ordinance







### Key Themes Inspiring Council Action

- Importance of protecting riparian areas & floodplains
- Lessons learned in Austin & beyond: need best science
- Prevention is affordable; repairs are not
- Simplicity and complexity
- A sustainable future: green infrastructure; compact development; connectivity; health; water
- Balance environmental protection & development opportunity

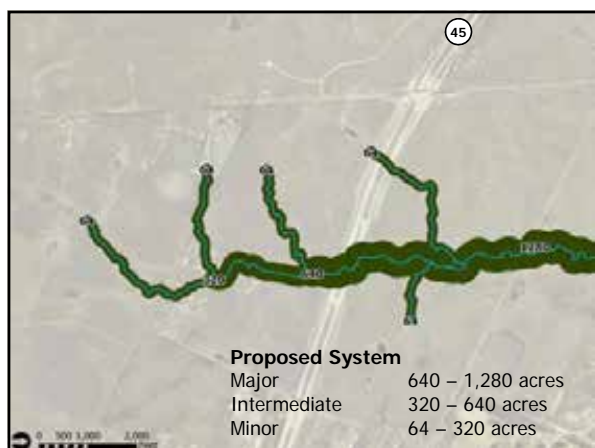
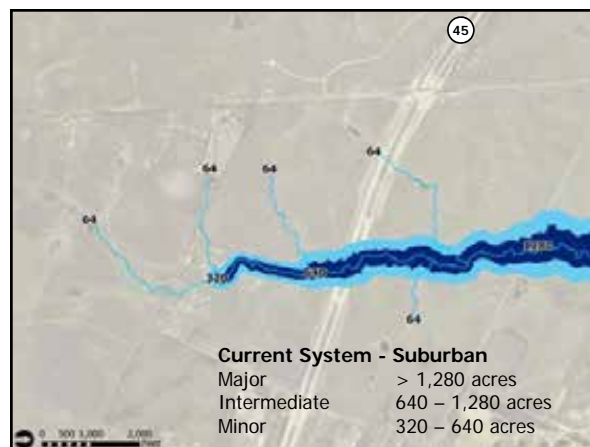
### Council Resolution

1. Creek Protection
2. Floodplain Protection
3. Development Patterns & Greenways
4. Improved Stormwater Controls
5. Mitigation Options
6. Simplify Regulations & Maintain Opportunity
7. Coordinate with Regional Partners

[\(Resolution #20110113-038\)](#)

### Creek Protection

"Improve stream buffer requirements, including critical headwater areas, to protect water quality and reduce erosion, flooding, and long-range costs for infrastructure maintenance."



## Floodplain Protection

"Promote, encourage and/or require the preservation and restoration of floodplains and stream buffers as well as the beneficial re-purposing of mining quarries."

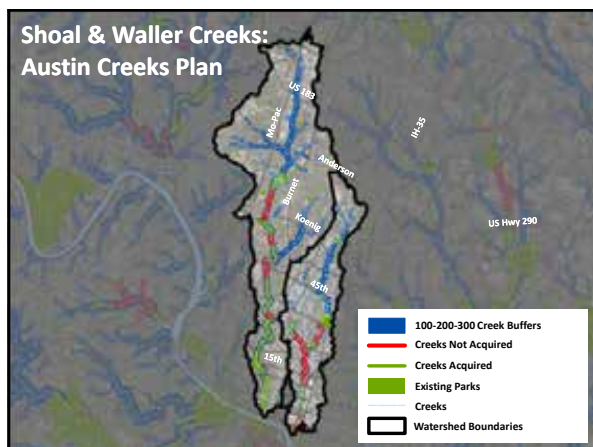


## Development Patterns & Greenways

"Explore opportunities to encourage a development pattern that better protects public and private property, preserves floodplains, creeks and open spaces, and provides access and connectivity with greenways and trails."



## Shoal & Waller Creeks: Austin Creeks Plan



## Improved Stormwater Controls

"Improve permanent stormwater controls to better moderate runoff and help reduce streambank erosion."



## Mitigation Options

"Explore better ways to regulate the modification of floodplains, including options for off-site mitigation for developments in areas that are planned for higher density developments."



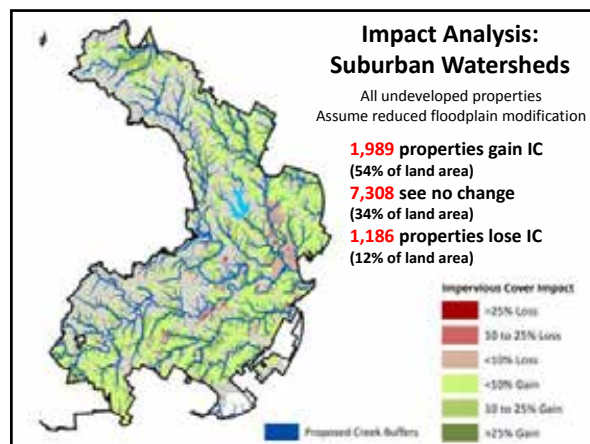
## Simplify Regulations

"Simplify development regulations where possible and minimize the impact of any changes on individual and collective abilities to develop land."

ELEMENT	DESIRED DEVELOPMENT ZONE			DRINKING WATER PROTECTION ZONE		
	Urban	Suburban City Limits	Suburban N. Edwards/ETJ	Water Supply Suburban	Water Supply Rural	Barton Springs Zone
Watershed Classification						
Minor	64 ac.	320 - 640 ac.	320 - 640 ac.	128 - 320 ac.	64 - 320 ac.	64/128 - 320 ac.
Intermediate	64 ac.	640 - 1280 ac.	640 - 1280 ac.	320 - 640 ac.	320 - 640 ac.	320 - 640 ac.
Major	64 ac.	over 1,280 ac.	over 1,280 ac.	over 640 ac.	over 640 ac.	over 640 ac.
Critical Water Quality Zone						
Minor	50 - 100 ft.	50 - 100 ft.	50 - 100 ft.	50 - 100 ft.	50 - 100 ft.	50 - 100 ft.
Intermediate	50 - 400 ft.	100 - 200 ft.	100 - 200 ft.	100 - 200 ft.	100 - 200 ft.	100 - 200 ft.
Major	50 - 400 ft.	200 - 400 ft.	200 - 400 ft.	200 - 400 ft.	200 - 400 ft.	200 - 400 ft.
Water Quality Transition Zone						
Minor	None	100 ft.	100 ft.	100 ft.	100 ft.	100 ft.
Intermediate	None	200 ft.	200 ft.	200 ft.	200 ft.	200 ft.
Major	None	300 ft.	300 ft.	300 ft.	300 ft.	300 ft.

### Impact Analysis: Suburban Watersheds

- Analysis for undeveloped properties shows:
  - Minor gain (**4-5%**) in average impervious cover
  - Majority of properties (**70%**) are not affected
  - Majority of affected sites (**80%**) are within a range of +/-25 percent for impervious cover impact
  - Site-specific factors will affect each site differently
- Affordability Impact Statement assessment



### Coordinate with Regional Partners

"Work in coordination with Travis County and neighboring communities to develop the above changes."

### Key Ordinance Changes

**Phase 1**

- Stream Buffers / Headwaters Protections
- Critical Water Quality Zones
- Floodplain Modification Protections & Mitigation
- Water Quality Controls
- Erosion Hazard Protections
- Planned Unit Development (PUD) Tier 2 Options
- Redevelopment Exception Expansion

**Phase 2**

- Hydrology

### Stakeholder Input

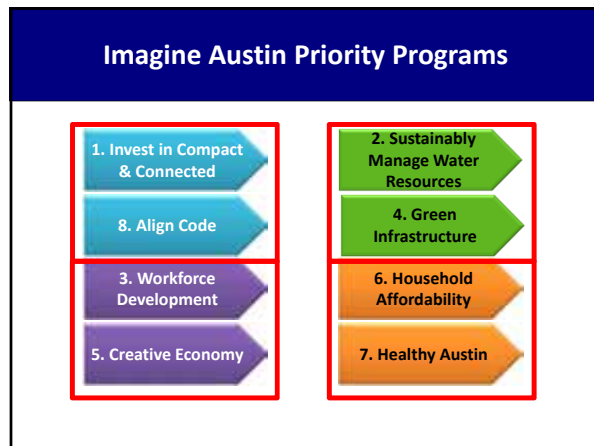
**15 Information Gathering Meetings**  
**11 Ordinance Review Meetings**

### Draft Ordinances & Criteria

1. 25-8 Environment	116+ changes; 55 pg.
2. 25-7 Drainage	20+ changes; 14 pg.
3. 25-2 Zoning	PUD environmental; 6 pg.
4. LDC 25-1 General Requirements	1 pg.
5. Environmental Criteria Manual	
6. Drainage Criteria Manual	

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Subdivision Ordinance	} Separate, Coordinated Initiatives
Transportation Criteria Manual	
Imagine Austin Code Overhaul	



### Imagine Austin Priority Programs

- Create a green infrastructure program to protect environmentally sensitive areas and integrate nature into the city.
  - Create a comprehensive network of parks, waterways, greenways, trails, green streets, natural areas, and other “green” features (e.g., a healthy urban forest) throughout Austin.
- Sustainably manage our water resources.
- Change Austin’s development regulations and processes to promote a compact & connected city.
  - “Phase 3” of Watershed Protection Ordinance



### Imagine Austin Growth Concept Map

- Protects existing open space and natural resources such as creeks, rivers, lakes, and floodplains.
- Promotes infill and redevelopment as opposed to typical low-density “greenfield” development.
- Focuses new development in mixed-use corridors and centers.
  - Environmental mitigation
  - Four centers located in the environmentally sensitive “Drinking Water Protection Zone.”

### Phase 1 WPO Adoption Schedule

Council Resolution	January 2011
Stakeholder Meetings: Input	Sep. 2011 – April 2012
Staff develops Draft Ordinance	April – November
Stakeholder Meetings: Phase 1 Draft Ordinance	Dec. ‘12 – May ‘13
Stakeholder Meeting: Review Draft Ordinance	June 14
Planning Commission: Codes & Ordinances (Briefing)	June 18
Environmental Board	June 19
Planning Commission: Codes & Ordinances (Action)	July 16
Planning Commission	July 23
City Council	August 22
Travis County Commissioner’s Court (Title 30)	Fall

### Contact/Additional Information

**Matt Hollon**  
**Watershed Protection Department**  
**City of Austin**  
**(512) 974-2212**  
[matt.hollon@austintexas.gov](mailto:matt.hollon@austintexas.gov)  
  
[www.austintexas.gov/page/watershed-protection-ordinance-0](http://www.austintexas.gov/page/watershed-protection-ordinance-0)



# Watershed Protection Ordinance (WPO) Summary of Proposed Code Improvements

Per [Council Resolution No. 20110113-038](#)

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**Key Acronyms:**

BSZ: Barton Springs Zone

CWQZ: Critical Water Quality Zone

DA: Drainage Area

EHZ: Erosion Hazard Zone

IA: Imagine Austin Comprehensive Plan

IC: Impervious Cover

WQTZ: Water Quality Transition Zone

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## 1. Creek Protection

Resolution: “Improve stream buffer requirements, including critical headwater areas, to protect water quality and reduce erosion, flooding, and long-range costs for infrastructure maintenance.”

- Extend minor **“headwaters” stream buffers** to 64 acres of drainage citywide
- Standardize drainage area (DA) thresholds for stream buffers citywide:
  - **64 acres** for minor (“headwaters”) waterways
  - **320 acres** for intermediate waterways
  - **640 acres** for major waterways
- Simplify CWQZ buffer widths for Suburban watersheds:
  - **100 ft.** for minor (“headwaters”) waterways
  - **200 ft.** for intermediate waterways
  - **300 ft.** for major waterways
- Eliminate **Water Quality Transition Zone (WQTZ) buffers** in Suburban watersheds
- Use **Gross Site Area** basis for impervious cover in Suburban watersheds (instead of net site area)
- Allow **“buffer averaging”** in Suburban watersheds to reduce the width of buffers by up to one-half if the overall amount of area protected remains the same
- Clarify that created or irrevocably altered **roadside ditches** do not create a CWQZ
- Revise allowed uses in the CWQZ:
  - Allow under certain conditions (e.g., in Suburban watersheds, outside of EHZ):
    - Flexible roadway crossings for IA centers & corridors
    - Hard-surfaced trails
    - Sustainable urban agriculture / community gardens
    - Parallel utility lines (e.g., wastewater infrastructure)
    - Green water quality controls
  - Prohibit:
    - Small single-family lots (< 5,750 square feet)
    - Managed portion of golf courses
- Add **Critical Environmental Feature (CEF)** protections:
  - Expand definition to include faults, fractures & seeps
  - Require perimeter fencing & natural state for CEF buffers
- Require **Erosion Hazard Zone (EHZ) protections**
  - No improvements (including utility lines) are allowed within the erosion hazard zone unless protective works are provided
  - Development must not result in additional erosion impacts to other properties

**Key Acronyms:**

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## 2. Floodplain Protection

Resolution: “Promote, encourage and/or require the preservation and restoration of floodplains and stream buffers as well as the beneficial re-purposing of mining quarries.”

- Adjust approach to protect and enable the **recovery of degraded waterways**.
- Prohibit **floodplain modifications in the CWQZ** unless:
  - Necessary to protect public health and safety
  - Provides a significant, demonstrable environmental benefit as determined by a **functional assessment of floodplain health**
  - Necessary for development permitted in the CWQZ (e.g., road crossings)
- In addition to these exemptions, allow floodplain modification **outside of the CWQZ** if a functional assessment of floodplain health determines the area to be in poor or fair condition
- Require **restoration of floodplain health** on-site where feasible
- Provide off-site **mitigation options** where on-site restoration is infeasible
- Ordinance will be accompanied by Floodplain Modification Criteria as an emergency rule

## 3. Development Patterns & Greenways

Resolution: “Explore opportunities to encourage a development pattern that better protects public and private property, preserves floodplains, creeks and open spaces, and provides access and connectivity with greenways and trails.”

- Improve and expand **PUD zoning elements** for “superior” environmental protection
- Improve the existing **transfers of development rights** sections to allow for increased flexibility and protection of additional environmental resources
- Expand the **Redevelopment Exception** (Council Resolution [20121213-066](#)):
  - Extend Barton Springs Zone (BSZ) redevelopment rules to Water Supply Rural and Water Supply Suburban watersheds
  - Extend to residential uses other than single-family residential or duplex in the BSZ and Water Supply watersheds
  - Prohibit additional non-compliance with required stream and CEF buffers
- Allow community gardens and hard-surface (multi-use) trails in the CWQZ (see above)
- Allow **small (less than 5,000 square feet) roadway projects** without on-site water quality controls or impervious cover limits (e.g., for minor intersection improvements, bike lanes, etc.)
- Establish limits for diversions of stormwater between watersheds to protect natural drainage patterns and topography



**Key Acronyms:**

BSZ: Barton Springs Zone

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## 4. Improved Stormwater Controls

Resolution: “Improve permanent stormwater controls to better moderate runoff and help reduce streambank erosion.”

- Require **water quality controls** for new development or redevelopment exceeding 5,000 square feet of impervious cover (rather than 20 percent of net site area)
- Allow potential for **combining (“stacking”)** water quality and flood controls
- Require all water quality controls to be **accessible** for maintenance and inspection
- Require maintenance plan and inspections by registered engineer, with annual reporting, for all **subsurface water quality controls**
- Remove code barriers to incentivize **green stormwater infrastructure** (see CWQZ above)

## 5. Mitigation Options

Resolution: “Explore better ways to regulate the modification of floodplains, including options for off-site mitigation for developments in areas that are planned for higher density developments.”

- New options for mitigation of floodplain modifications (see above)
- New options for mitigation of redevelopment in Water Supply watersheds (see above)

## 6. Simplify Regulations & Maintain Development Opportunity

Resolution: “Simplify development regulations where possible and minimize the impact of any changes on individual and collective abilities to develop land.”

- Several of the **provisions listed above** were designed to fulfill this goal, including eliminating the WQTZ, converting to gross site area, allowing buffer averaging, allowing green stormwater controls with the CWQZ, and allowing potential for stacking of water quality and flood controls
- Eliminate the **Boundary Street Deduction**
- Numerous **clarifications & corrections** of existing code

## 7. Coordinate with Regional Partners

Resolution: “Work in coordination with Travis County and neighboring communities to develop the above changes.”

- Coordinate regulations with new Travis County Water Quality Rules
- Input from Travis County and LCRA in Watershed Protection Ordinance

**Key Acronyms:**

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**Items to be considered in Phase 2 of Watershed Protection Ordinance****Hydrology and Green Stormwater Infrastructure****Fall 2013**

- Limit stormwater runoff volume (e.g., through requirement for infiltration or re-use on-site)
- Rain gardens for single-family residential subdivisions
- Alternatives (rain gardens?) for SOS compliance
- Rainwater harvesting for water conservation and water quality
- Using green roofs as irrigation area for rainwater harvesting
- Porous pavement for non-pedestrian surfaces (e.g., parking lots)
- Flood detention credit for water quality controls
- Impervious cover credit for rainwater harvesting catchment and/or tank areas
- Volumetric Flood Detention (add to Drainage Criteria Manual as option)
- Other related items as identified by stakeholders

**Items to be considered in Phase 3 of Watershed Protection Ordinance****Imagine Austin Land Development Code Revision**

- Align stream crossing provisions with new connectivity requirements
- Evaluation of mitigation options for centers and corridors

**RESOLUTION NO. 20110113-038**

**WHEREAS**, the City of Austin desires that future development activity not increase impacts to public and private property from flooding and stream erosion or create additional public expense and environmental degradation; and

**WHEREAS**, broad, alluvial floodplains are more likely to be modified or channelized due to their unique topography and soil types; and

**WHEREAS**, existing regulations need to be reviewed and amended to be sure they provide sufficient protection of headwater streams, maintain creek health, control infrastructure maintenance costs, and take advantage of opportunity for greenway and trail connectivity; and

**WHEREAS**, the 2001 Watershed Protection Master Plan, approved by Council, called for improvements to stream setback regulations and drainage design criteria; **NOW, THEREFORE**,

**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF AUSTIN:**

The City Manager is directed to draft, process, and bring forward for Council consideration necessary Land Development Code amendments to improve stream buffer requirements, protect headwaters and streambanks, preserve floodplains, and improve stormwater controls to accomplish the following goals:

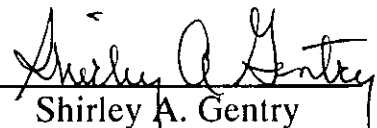
1. Improve stream buffer requirements, including critical headwater areas, to protect water quality and reduce erosion, flooding, and long-range costs for infrastructure maintenance.



2. Promote, encourage and/or require the preservation and restoration of floodplains and stream buffers as well as the beneficial re-purposing of mining quarries.
3. Explore opportunities to encourage a development pattern that better protects public and private property, preserves floodplains, creeks and open spaces, and provides access and connectivity with greenways and trails.
4. Improve permanent stormwater controls to better moderate runoff and help reduce streambank erosion.
5. Explore better ways to regulate the modification of floodplains, including options for off-site mitigation for developments in areas that are planned for higher density developments.
6. Simplify development regulations where possible and minimize the impact of any changes on individual and collective abilities to develop land.
7. Work in coordination with Travis County and neighboring communities to develop the above changes.

**ADOPTED:** January 13, 2011

**ATTEST:**

  
Shirley A. Gentry  
City Clerk