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T**ORDINANCE AMENDMENT REVIEW SHEET**

**Amendment:** C20-2013-017 Watershed Protection Amendments

**Description:** Amend Chapters 25-7, 25-8, 30-4, and 30-5 relating to drainage and water quality; amend various sections of Titles 25 and 30 relating to environmental protection, and establish a water supply mitigation fund and riparian zone fund.

**Proposed Language:** See attached draft ordinance

This packet includes:

- Summary of proposed amendments
- Summary and discussion tables for proposed amendments
- Printout of presentation
- Draft ordinance
- Affordability Impact Statement
- Council Resolution 20110113-038

For additional information please visit: <http://www.austintexas.gov/page/watershed-protection-ordinance-0>

**Background:** Initiated by Council Resolution 20110113-038

The proposed ordinance amends Chapters 25-7, 25-8, 30-4, and 30-5 relating to drainage and water quality; amending various sections of Titles 25 and 30 relating to environmental protection, and establishing a water supply mitigation fund and riparian zone fund. Ordinance highlights include: extending headwaters stream buffers citywide; requiring Erosion Hazard Zone protections; guiding floodplain modifications to ensure restoration and offer mitigation; improving water quality control requirements; and updating and improving Planned Unit Development environmental options.

In 1986, the City of Austin passed the Comprehensive Watershed Ordinance. Since this time, much has been learned about best approaches to the protection of waterways, riparian areas, and floodplains. Central lessons have been the need to prevent problems before they are created: that development activity not increase impacts to public and private property from flooding and stream erosion or create additional public expense and environmental degradation.

Council asked staff in January 2011 to review existing regulations and amendments proposed to be sure the Land Development Code provide sufficient protection of headwater streams, maintain creek health, control infrastructure maintenance costs, and take advantage of opportunity for greenway and trail connectivity. In December 2012, Council asked staff to also recommend expanded redevelopment options.

The many provisions of the proposed Watershed Protection Ordinance (WPO) are intended to balance environmental protection with development opportunity.

CS/2

**Staff Recommendation:** Staff recommends the proposed code amendments.

**Board and Commission Actions**

**July 16, 2013:** Codes and Ordinances Subcommittee recommended approval to the full Planning Commission, on a 5-0 vote.

**August 13, 2013:** A public hearing has been scheduled for Planning Commission

**Council Action**

**October 3, 2013:** A public hearing has been set for City Council

**Ordinance Number:** NA

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C5/3

**Watershed Protection Ordinance (WPO)**  
**Summary of Proposed Code Improvements**  
Per [Council Resolution No. 20110113-038](#)

<b>Key Acronyms:</b>	EHZ: Erosion Hazard Zone
BSZ: Barton Springs Zone	IA: Imagine Austin Comprehensive Plan
CWQZ: Critical Water Quality Zone	IC: Impervious Cover
DA: Drainage Area	WQTZ: Water Quality Transition Zone

## 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
- Continue CWQZ administrative variances in Urban watersheds with conditions
- Revise allowed uses in the CWQZ:
  - Allow under certain conditions (e.g., in Suburban watersheds, outside of EHZ, etc.):
    - 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
    - Athletic fields
  - 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

**Key Acronyms:**

BSZ: Barton Springs Zone

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- **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

**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 & hard-surface (multi-use) trails in the CWQZ with conditions
- Allow athletic fields in Urban and Suburban watershed CWQZs with conditions (e.g., min. buffer)
- Prohibit new athletic fields in CWQZ in all Drinking Water Protection Zone watersheds
- 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, transit stops, and stream crossings)
- Establish limits for diversions of stormwater between watersheds to protect natural drainage patterns and topography

**Key Acronyms:**

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C5/6

**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

## Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
1. <i>Impervious Cover Measurement</i> (\$25-1-23)	Current code regulates impervious cover in two places: §25-1-23 for zoning limits and §25-8-63 for watershed limits. The requirements are largely consistent, but some elements are included in one section but not the other.	Move code provisions from §25-1-23 to §25-8-63 for clarity and ensure compatibility. Refer to §25-8-63 in §25-1-23 as a reference.	Clarity. Consistency.	None.
<b>CHAPTER 25-2 ZONING</b>				
2. <i>PUD Tier 2 Watershed Elements</i> (\$25-2 Subch. B, Art. 2, Div. 5, §2-4)	Current code for Planned Unit Developments (PUDs) presents various watershed-related elements that, if proposed by a prospective PUD project, demonstrate "superiority" to standard compliance. But some elements are outdated.	Bring watershed protection elements in alignment with other WPO provisions, e.g., use of innovative controls, volumetric detention, mitigation of off-site runoff, & superior stream buffers; delete outdated provisions.	Provide consistency in what is considered "superior" watershed protection to the PUD rules, a key "lead by example" type of land use tool used by Council.	None. But will need to clarify that this effort will be limited to watershed elements (i.e., does not address the entirety of PUD superiority elements).
3. <i>PUD Tier 2: Grandfathering</i>	Credit for compliance with current code instead of asserting grandfathered rights.	Changes existing version to clarify that project forgoes grandfathering rights rather than just comply with code.	Compliance with current code is not "superior" unless it involves forgoing of grandfathered rights.	None. All Tier 2 options are or are not selected at the discretion of the applicant.
4. <i>PUD Tier 2: Superior Water Quality Controls</i>	Credit for providing water quality controls superior to those otherwise required by code.	Provision unchanged from existing code.	Offers a way to propose water quality controls not included in the Environmental Criteria Manual; encourages innovation.	See above.
5. <i>PUD Tier 2: Innovative Water Quality Controls</i>	Credit for providing green stormwater quality controls to treat at least 50% of the required water quality volume.	Modifies previous version that credited larger water quality capture volumes and pollutant removal. Updates previous name of "innovative" to current "green stormwater" water quality controls.	Current practice focuses on green infrastructure water quality controls. These are required to be properly sized for capture volume; they also offer superior pollutant removal. Providing more capture volume is not especially helpful unless the volume treats an untreated off-site area (which is the subject of another option; see below).	See above.

C5/8

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
6. <i>PUD Tier 2: Treatment of Off-Site Development</i>	Credit for providing water quality treatment for currently untreated, developed off-site areas of at least 10 acres in size.	Modifies credit to align with current Environmental Criteria Manual policy regarding cost participation with projects offering to treat additional, off-site runoff. Corrects accidental error to require the drainage come from developed areas.	Ensures a meaningful area of land will be treated with controls; existing version could be a very small area for a very small PUD.	See above.
7. <i>PUD Tier 2: Impervious Cover Reductions</i>	Credit for reduction of impervious cover by 5% below the code maximum either on or off-site.	Retains this credit except removes a (seldom-used) provision to reduce single-family residential density by 5%.	Reduction of single-family density is not a current goal. (The Imagine Austin Comprehensive Plan calls for "compact & connected" to counter urban sprawl.) Achieving the same or higher density on a reduced footprint of disturbance is preferred, hence the continued credit given to 5% impervious cover reduction.	See above.
8. <i>PUD Tier 2: 32-Acre Stream Buffers</i>	Credit for providing minimum 50-foot setback for 50+ percent of waterways with 32 or more acres of drainage.	Changes existing version that calls for 5-acre drainage area buffers--a laudable goal but likely not to be used.	Increases likelihood that projects will choose to have 32-acre buffers, which are superior to standard 64-acre buffers.	See above.
9. <i>PUD Tier 2: Volumetric Flood Detention</i>	Credit for providing volumetric flood detention as described in the Drainage Criteria Manual.	Add new Tier 2 option.	Volumetric flood detention can offer superior protection and warrants recognition.	See above.
10. <i>PUD Tier 2: Off-Site Drainage Upgrades</i>	Credit for upgrading inadequate off-site drainage infrastructure, such as storm drains and culverts.	Add new Tier 2 option.	Existing drainage infrastructure may be undersized and/or in poor condition; upgrades should be encouraged and warrant recognition as superior.	See above.
11. <i>PUD Tier 2: Floodplain Left Unmodified</i>	Credit for designs with no modifications to existing 100-year floodplains.	Add new Tier 2 option.	Modifications to floodplains are discouraged but still allowed; projects electing to leave them undisturbed should be recognized as superior.	See above.



## Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

5/6

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
12. <i>PUD Tier 2: Natural Channel Design Techniques</i>	Credit for use of natural channel design techniques.	Add new Tier 2 option.	Natural channel design techniques provide multiple public and environmental benefits as compared with conventional solutions and should be encouraged and recognized as superior.	See above.
13. <i>PUD Tier 2: Riparian Vegetation Restoration</i>	Credit for restoration of riparian vegetation in existing, degraded Critical Water Quality Zone areas.	Add new Tier 2 option.	Restoration of riparian vegetation is a major component of the WPO, providing multiple public and environmental benefits; efforts to actively reestablish this vegetation should be encouraged and recognized as superior.	See above.
14. <i>PUD Tier 2: Removal of Critical Zone Impervious Cover</i>	Credit for removal of existing impervious cover from the Critical Water Quality Zone.	Add new Tier 2 option.	Historic development often was placed too close to waterways in the Critical Water Quality Zone. Designs that remove impervious cover and restore soils and vegetation should be encouraged and recognized as superior.	See above.
15. <i>PUD Tier 2: Superior Tree Preservation</i>	Credit if: preserve all heritage trees; preserve 75% of the caliper inches associated with native protected size trees; and preserve 75% of all of the native caliper inches.	Add new Tier 2 option.	Need a clear plan to demonstrate superior preservation of existing trees.	See above.
16. <i>PUD Tier 2: Central Texas Trees &amp; Soil</i>	Credit if tree plantings use Central Texas native seed stock and adequate soil volume.	Add new Tier 2 option.	Need an option that recognizes the benefits and superiority of providing native seed stock and plants or providing adequate soil volume.	See above.
17. <i>PUD Tier 2: Increased Stream and CEF Buffers</i>	Credit if provide 50% or more increase in the minimum waterway and/or critical environmental feature setbacks required by code.	Modifies previous version that asked for both larger stream and CEF buffers; new proposal will give credit for either or both.	Increases likelihood that projects will choose to increase buffer protections for streams and CEFs.	See above.

## Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
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18. <i>PUD Tier 2: Clustering/ Minimized Site Disturbance</i>	Credit if cluster impervious cover and disturbed areas to preserve the most environmentally sensitive areas of the site.	No change.	Retain provision to acknowledge superiority of clustering development to minimize site disturbance and impacts during and after construction.	See above.
19. <i>PUD Tier 2: Porous Pavement for Parking &amp; Drive Surfaces</i>	Provides porous pavement for at least 20 percent or more of all paved areas for non-pedestrian use in non-aquifer recharge areas.	Changes existing version that calls for 50% of all pavement to be porous--a laudable goal but likely not to be used.	The existing porous pavement option calls for 50% of all pavement, which is a threshold too high to encourage frequent use. A 20% or greater threshold will encourage more use of this provision and the benefits of this superior design approach.	See above.
20. <i>PUD Tier 2: Porous Pavement for Pedestrian Surfaces</i>	Credit if provide porous pavement for 50% or more of all paved areas for pedestrian use (e.g., sidewalks, plazas, etc.).	Add new Tier 2 option.	Porous pavement can help infiltrate water and reduce impacts from paved areas; it requires more expense and care and its use should be encouraged and recognized as superior.	See above.
21. <i>PUD Tier 2: Rainwater Harvesting for Landscape Irrigation</i>	Provides rainwater harvesting for landscaping irrigation to serve not less than 50% of the landscaped area.	Add new Tier 2 option.	Encourage water conservation and re-use of rainwater.	See above.
22. <i>PUD Tier 2: Increased Stormwater Management in Landscaping</i>	Directs stormwater runoff from impervious surfaces to a landscaped area at least equal to the total required landscape area.	Add new Tier 2 option.	Integration of stormwater management with landscaping benefits water quality and conservation; efforts to exceed baseline requirements should be encouraged and recognized as superior.	See above.
23. <i>PUD Tier 2: Other Creative Protective Measures</i>	Employs other creative or innovative measures to provide environmental protection.	Clarifies that credit be given for measures that "provide environmental protection."	Clarity.	See above.
24. <i>PUD Tier 2: Community Gardens &amp; Urban Farms</i>	Provides community gardens or urban farms. (Added to existing list of other community or public amenities.)	Add new Tier 2 option.	Provide environmental, health & community benefits of urban agriculture.	See above.

## Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
25. <i>PUD Tier 2: Public Trails &amp; Greenways</i>	Provides publicly accessible multi-use trail and greenway along creek or waterway.	Add new Tier 2 option.	Emphasis of the benefits of healthy riparian buffers is a major component of the WPO; efforts to integrate public trails should be encouraged and recognized as superior.	See above.
26. <i>Commercial Landscaping Code Conflicts (\$25-2-982)</i>	Current code states that Commercial Landscaping Requirements do not override transportation requirements but does not speak to drainage or environment requirements.	Clarify that commercial landscaping provisions do not trump drainage or environmental requirements.	Acknowledges that 2010 changes to the Commercial Landscape Code are not meant to exempt developments from drainage & environmental requirements.	None: few conflicts are expected between Commercial Landscaping & drainage/ environment requirements.
27. <i>Compatibility Standard &amp; Innovative WQ Controls (\$25-2 Subch. C, Art. 10, Div. 1&amp;2 \$25-2-1052, 1062 &amp; 1063)</i>	Zoning compatibility standards provide for setbacks between potentially conflicting land uses; currently unclear whether rain gardens would qualify as a "structure."	Allow rain gardens in compatibility setbacks.	Encourage the use of innovative WQ controls; give more flexibility to placement of controls; reduce project costs (combine landscaping & WQ controls)	If not maintained well could become nuisance for adjacent residential properties (note: would be concern of any landscape).
28. <i>Compatibility Standard &amp; Recreation/ Trails (\$25-2 Subch. C, Art. 10, Div. 2 \$ 25-2-1067)</i>	Compatibility standards do not clearly define what qualifies as "passive recreation."	Clarify which features qualify as passive recreation, e.g., trails.	Facilitates low-impact neighborhood connectivity.	Potential compatibility issues need to be resolved prior to approval of passive recreation options.
29. <i>Site Development Standards (\$25-2 Subch. E, Art. 2, §2.3.1.B.5)</i>	Existing Commercial Design Standard code allows impervious cover limits to be exceeded by 5% if the difference is for porous concrete sidewalks. Proposed provisions eliminate the need for this added complexity.	Delete this section; no longer needed since sidewalks made of porous pavement are no longer to be counted against impervious cover limits [see §25-8-63(C)(8)].	Clarity. Consistency. Simplicity.	None.

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
CHAPTER 25-4 SUBDIVISION				
30. Easements and Alleys (\$ 25-4-132)	Current code recognizes the need to design easements for public utilities & drainageways to minimize construction cost but does not mention minimization of future maintenance costs.	Add minimization of future maintenance costs to the criteria for the determination of easement width and location.	Ensure that easements for public utilities and drainageways are designed with long-term maintenance in mind.	Potential increase in land required for easements; but is to avoid future public cost.
Chapter 25-8 Subchapter B: Tree and Natural Area Protection; Endangered Species				
31. Shoreline Modification Review (\$25-8-652)	Requirements exist for Parks Board review in 25-7-63 as well; not in correct location.	Move language from 25-7-63 into 25-8-652.	Clarity	None.
32. Birds & Plants; Cave Species (\$25-8-693 & 694)	Reference to "habitat survey" no longer is applicable. Outdated references to recharge zone maps.	Delete "habitat survey" and refer to "Notice" (see below). Refer to definition of recharge zone in 25-8, Subchapter A.	Consistency.	None.
33. Habitat Survey (\$25-8-695) [Deleted]	Requirement for a habitat survey no longer applicable under state law. (Applicants process this with the US Fish & Wildlife Service, not the City of Austin.)	Delete section.	Consistency. Conformity with State law.	None.
34. Salamander Species § 25-8-695	Need equivalent salamander section.	Add salamander species section.	Consistency.	None.
35. Notice in Areas with Endangered Species (\$25-8-696) [New]	Requirement that the department director notify a number of entities (Council, Land Use Commission, Environmental Board & Travis County Commissioners Court) of applications for subdivision or site plans is not useful and does not relate to present practice.	Delete requirement to notify Council, Land Use Commission, Environmental Board & Travis County Commissioners Court.	Reduction of unnecessary paperwork.	None.

5/3

Description	Current Status/Concern	Potential Improvements	Anticipated Impacts	
			Advantages	Disadvantages
1. Lady Bird Lake Update §25-7 Multiple	Town Lake has been renamed Lady Bird Lake.	"Replace All" instances of Town Lake with Lady Bird Lake	Updates code.	None.
2. Department Director References §25-7 Multiple	References to "director" need to be updated.	"Director" is defined for Chapter 25-7 as WPD unless otherwise noted.	Clarity.	None.
3. Development Application: Global change §25-7 Multiple	Uses of "site plan," "preliminary plan," "construction plan," "final plat," "subdivision construction plan," "construction plan," do not cover all applications.	Replace with "development application" defined in Definitions section to include applications required under this title for development. Also clarified to refer to Chapter 25: Land Development code.	Clarity; completeness.	None.
<b>ARTICLE 1. GENERAL PROVISIONS.</b>				
4. Definitions §25-7-2(1)	Existing term needs definition.	Add definition for "Adverse Flooding Impact."	Adds clarity.	None.
5. Definitions §25-7-2(2)	New term needs definition.	Add definition for "Development Application."	Adds clarity.	None.
6. Definitions §25-7-2(3)	Need to define the department director referred to by "Director."	Define the department referred to by "Director" as Director of the Watershed Protection Department.	Adds clarity.	None.
7. Definitions §25-7-2(4)	Need to consolidate definitions with multiple references.	Move definition for "Drainage Easement" from 25-7-33 to 25-7-2.	Adds clarity.	None.
8. Definitions §25-7-2(5)	New definition needed.	Add definition for "Erosion Hazard Zone."	Adds clarity.	None.
9. Definitions §25-7-2(6)	Existing term needs definition.	Add definition for "FEMA."	Adds clarity.	None.
10. Definitions §25-7-2(7)	Need to consolidate definitions with multiple references.	Move definition for "FEMA Floodplain" from 25-7-33 to 25-7-2.	Adds clarity.	None.
11. Definitions §25-7-2(8)	Need to consolidate definitions with multiple references.	Move definition for "Flood Insurance Rate Map" from 25-7-33 to 25-7-2.	Adds clarity.	None.
12. Definitions §25-7-2(9)	Need to consolidate definitions with multiple references.	Move "100 Year Floodplain" definition from 25-7-5 [deleted] to 25-7-2.	Adds clarity.	None.

5/4

Description	Current Status/Concern	Potential Improvements	Anticipated Impacts	
			Advantages	Disadvantages
13. Definitions §25-7-2(10)	Need to consolidate definitions with multiple references.	Move "25 Year Floodplain" definition from 25-7-5 [deleted] to 25-7-2.	Adds clarity.	None.
14. Definitions §25-7-2(11)	Existing term needs definition.	Add definition for "Waterway."	Adds clarity.	None.
15. 25-Year and 100-Year Floodplain Determination §25-7-5 [Deleted]	Text in this section is a definition.	Move to definitions section.	Consistency.	None.
<b>ARTICLE 2. DRAINAGE STUDIES; EROSION HAZARD ANALYSIS; FLOODPLAIN DELINEATION.</b>				
16. Article 2: Title	Term "floodway" is not necessary. Need provision for "Erosion Hazard Analysis."	Delete "Floodway." Add Erosion Hazard Analysis.	See benefits discussion below for Erosion Hazard Analysis.	None.
17. Director Authorized to Require Drainage Studies §25-7-31	Some references out of date. Other text needs rewording.	Delete reference to Administrative Manual which no longer exists; change language in (C) to better relate to (A); change "director" to "City" to allow for variable reviewers, as the application itself determines who will review.	Updates; clarity.	None.
18. Director Authorized to Require Erosion Hazard Zone Analysis §25-7-32	Need provision for "Erosion Hazard Analysis."	Add new section to require Erosion Hazard Analysis; only applies where development is within 100 feet of the centerline of a waterway with a drainage area of 64 acres or greater or where significant erosion is present.	Prevention of damage to structures, infrastructure and creeks and associated public & private costs.	Increased design and construction cost. But assessment of erosion hazards is an engineering obligation.
19. Floodplain Maps, Delineation, and Depiction: Clean-up §25-7-33	First portion of section consists of definitions. Other text needs rewording.	Move definitions to definitions section. Reword text.	Consistency. Clarity.	None.

## Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

55

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20. Floodplain Maps, Delineation, and Depiction: Required plats §25-7-33 (D) (3&4)	Plat requirements in (D) [former E]) need to be aligned with those required in Planning & Development Review submittal packet.	Add (D)(4) "on a residential building permit"; "site plan exemption or general permit" included in (D)(3)	May eliminate some confusion about requirements (code v. packet); would facilitate review of impacts on floodplains and drainage easements.	None.
<b>ARTICLE 3. REQUIREMENTS FOR APPROVAL.</b>				
21. Criteria for Approval of Development Applications: Clean-up §25-7-61	Some text needs rewording for clarity & consistency.	Reword text.	Consistency. Clarity.	None.
22. Pool-Riffle Sequences v. Nuisance Pools §25-7-61 (A)(3)	No distinction made between natural pools and nuisance pools of standing water.	Add clarifying language.	Allows for pool-riffle sequences that may be part of natural channel design projects.	None.
23. No Additional Erosion Impacts §25-7-61 (A)(5)(d)	Current code does not explicitly prohibit additional erosion impacts from new development.	Add requirement to ensure that downstream property is not impacted by erosion.	Prevention of damage to structures, infrastructure and creeks and associated public & private costs.	None. Usually already managed using standard water quality controls & energy dissipation provisions.
24. Erosion Hazard Zone Considerations §25-7-61	Current code does not explicitly ensure Erosion Hazard Zone protections are provided.	Add requirement to locate "proposed improvements" outside erosion hazard zone unless protective works are provided.	Prevention of damage to structures, infrastructure and creeks and associated public & private costs.	Increased design and construction cost. But assessment of erosion hazards is an engineering obligation.
25. Review by Parks and Recreation Board of Certain Site Plans §25-7-63 [Moved]	Requirements in this section fit in better with §25-8-652 (Environment chapter).	Move content to §25-8-652.	Reduces confusion and overlooking of requirements by consolidating like requirements in one section.	None.
26. Design and Construction of Drainage Facilities and Improvements §25-7-64	Some items required for permit approval are scattered in other locations.	Move text from §25-7-121 to Article 3. No changes to text/substance.	Clarity. Organization.	None.

5/29

Description	Current Status/Concern	Potential Improvements	Anticipated Impacts	
			Advantages	Disadvantages
27. <i>Enclosed Storm Sewers, Bridges, and Culverts</i> §25-7-65	Some items required for permit approval are scattered in other locations.	Moved from §25-7-123 (B) & (C); deleted "sewer." No changes to substance.	Clarity. Organization.	None.
28. <i>Fiscal Security Required</i> §25-7-65 [Moved]	Current content on erosion & sedimentation controls more appropriate to §25-8 Environment.	Moved to §25-8-186	Reduces confusion and overlooking of requirements by consolidating like requirements in one section.	None.
<b>ARTICLE 4. SPECIAL REQUIREMENTS IN ZONING JURISDICTION.</b>				
29. <i>Encroachment on Floodplain Prohibited</i> §25-7-92	Current wording does not allow for variances in City's limited purpose jurisdiction; includes incorrect references; may not take into account erosion impacts of variances.	Revise (C) to remove limitation of application to full purpose limits; provide correct references for (C)(1) & (3); in (D) replace "subsection" with correct term, "Section." This wording replicated in other sections as well for consistency.	Consistency. Clarity.	None.
30. <i>General Exceptions</i> §25-7-93	Wording needs to be consistent with "additional adverse flooding" language; includes incorrect reference.	Change "adverse effect on 100-year floodplain or surrounding properties" to "additional adverse flooding impact on other properties"; provide correct reference for Building Code.	Consistency. Clarity. Accuracy.	None.
31. <i>Requirements in Central Business Area</i> §25-7-94	Includes incorrect reference.	Provide correct reference for Building Code; minor wording changes for clarity.	Accuracy.	None.
32. <i>Requirements for Parking Areas</i> §25-7-95	Clarifications needed.	Minor wording changes for clarity.	Clarity.	None.
33. <i>Requirements in the 25-Year Floodplain</i> §25-7-96	Current wording does not allow a building on non-recreational land; current wording is unclear as to what types of structures may be allowed in the 25-year floodplain; includes incorrect reference.	Add "public" land clarification; add "tool shed" (e.g., for community gardens) to list of exceptions if less than 1,000 square feet; minor wording changes for clarity & consistency.	Clarity. Facilitate urban agriculture. Consistency.	None.



5/17

Description	Current Status/Concern	Potential Improvements	Anticipated Impacts	
			Advantages	Disadvantages
ARTICLE 5. [DELETED] DESIGN AND CONSTRUCTION STANDARDS.				
34. <i>Design and Construction Standards</i> <i>Article 5 [Deleted]</i> <i>\$25-7-121 thru 125</i>	Need to relocate some sections. Details in others should be addressed in the Drainage & Environmental Criteria Manuals.	Move \$25-7-121 to \$25-7-64. Move \$25-7-123 (B) & (C) to \$25-7-65. Delete sections \$25-7-122, \$25-7-124, and \$25-7-125.	Clarity. Organization. Address high level of detail in criteria manuals where appropriate.	None.
ARTICLE 5. RESPONSIBILITIES OF OWNER OR DEVELOPER				
35. <i>Dedication of Easements and Rights-of-Way: Easement Width on Waterways</i> <i>\$25-7-152</i>	Current code requires a 25-foot easement for open waterways; this width might not be adequate for some waterways for sufficient Erosion Hazard Zone coverage and/or maintenance access; includes incorrect reference.	Require easement follow Drainage Criteria Manual (DCM); require easement provide maintenance access; provide correct reference for (E)(2)(d).	Avoid unsustainable environmental & economic costs to correct erosion hazards; ensure ability to maintain waterway (else not large enough for equipment, etc.). More appropriate to handle this level of detail in DCM than in Code.	Potential reduction in development footprint (note: must be counter-balanced by cost to repair if not properly designed).
36. <i>Detention Basin Maintenance &amp; Inspection: Subsurface Facility Inspections</i> <i>\$25-7-153(E)&amp;(F)</i>	Construction of subsurface detention controls is not currently limited & results in facilities that are expensive, and difficult to inspect and maintain. City staff not equipped to inspect these systems.	Require maintenance plan and 3rd party inspections with annual reporting for all subsurface water quality controls. Add that City inspections not required (since will be done by 3rd party).	Control the quality of designs and ensure proper inspection & maintenance of subsurface controls.	Expense to property owners (though otherwise no maintenance assured); administrative cost to City.

8/5/25

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Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

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Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
ARTICLE 1. GENERAL PROVISIONS				
1. Barton Springs Definition §25-8-1 (1)	Barton Springs is not defined and potentially not clear.	Add definition.	Clarity.	None.
2. Bluff Definition §25-8-1 (2)	Term used to define itself.	Reword.	Clarity.	None.
3. Canyon Rimrock Definition §25-8-1 (3)	Term used to define itself.	Reword.	Clarity.	None.
4. Cluster Housing Definition §25-8-1 (5)	The original clarifying definition of cluster housing was inadvertently deleted from the Code, leaving use of this provision unclear.	Add original definition from Ordinance 851219-GG back into Code.	Clarify requirements to use cluster housing provisions for WS Rural watershed development; current code & criteria do not provide guidance.	None.
5. Crest of a Bluff Definition §25-8-1 (4) [Deleted]	No longer needed since term was deleted in 25-8-92 (A)(2).	Deleted definition of term no longer found in 25-8.	Clarity.	None.
6. Critical Environmental Feature Definition §25-8-1 (6)	Faults, fractures, and seeps are all regulated Critical Environmental Features (CEFs) but are not listed in the CEF Definition.	Add faults, fractures and seeps to definition.	Clarifies features subject to the requirements for CEF buffers in §25-8-281.	None.
7. Director Definition §25-8-1 (7)	The departmental director responsible for the enforcement of this chapter is not necessarily clear.	Add definition to clarify the director is that of the Planning & Development Review Department unless otherwise indicated.	Clarity.	None.
8. Erosion Hazard Zone Definition §25-8-1 (8)	Erosion Hazard Zones are a key technical consideration for engineering designs; the term and concept are not defined in the code.	Add definition. Methods to comply will be developed and published in the Drainage Criteria Manual (DCM) at the same time as the ordinance is adopted.	Clarity.	None.

5/9

**DRAFT Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes**

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Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
9. <i>Faults &amp; Fractures Definition</i> §25-8-1 (9)	Structure of definition (starting with "is limited to") was confusing.	Reword.	Clarity.	None.
10. <i>Impervious Cover Definition</i> §25-8-1 (10)	Definition needs adjustment to focus on infiltration of water into the ground; existing placement of definition is out of alphabetical order.	Reword and move into alphabetical order.	Clarity.	None.
11. <i>Multi-Use Trail Definition</i> §25-8-1 (12)	Term used in revisions (25-8-63 & 261) so needed definition. Current code allows "hiking, jogging, or walking trails and outdoor facilities" (25-8-261) but does not allow "multi-use trails," potentially making creation of hike-and-bike trails more difficult.	Add definition.	Clarifies and makes way for construction of trail systems called for in Imagine Austin Comprehensive Plan & Watershed Protection Master Plan. Concrete trails save roughly 90% on maintenance and offer alternatives to motorized transportation.	Potential damage to riparian zones with increased impervious surfaces & public use. Develop trail design criteria to address water quality & riparian concerns; place out of Erosion Hazard Zone. Some especially sensitive areas should be off-limits.
12. <i>Open Space Definition</i> §25-8-1 (13)	The term "open space" is used (e.g., 25-8-261) and needs to be defined to make its meaning clear.	Add definition to clarify what kind of uses are allowed within the critical water quality zone. Add multi-use trails. Limit golf courses to areas left in a natural state.	Clarity. Multi-use trails central to connectivity goals of Imagine Austin. Managed golf courses not appropriate near waterways; could seek variances & show protective measures provided.	Increased permitting costs & uncertainty for proposed golf course development in CWQZ. See trail discussion above.
13. <i>Descriptions of Regulated Areas</i> §25-8-2	Division of responsibilities between WPD & PDRD needs updating. Some watersheds need to have their names updated and/or be assigned to correct watershed classifications.	Correct/update text in section.	Clarity.	None.
14. <i>Descriptions of Regulated Areas</i> §25-8-2 (D)(1)	Barton Springs Zone needs to explicitly include Barton Creek.	Barton Springs Zone definition clarified to include Barton Creek watershed.	Clarity.	None.

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
15. Descriptions of Regulated Areas §25-8-2 (D)(3)	Existing text describing the Edwards Aquifer is confusing.	Edwards Aquifer definition cleanup.	Clarity.	None.
16. Urban Watershed Exceptions §25-8-23	Exceptions granted in 1991 Urban Watershed Ordinance are no longer relevant.	Delete section.	Simplifies code by deleting outdated sections.	None. Few to no known projects would apply.
17. Condemnation and Accessibility Exceptions § 25-8-23 (A)(2)	Director reference needed.	Specify Director of WPD to determine cases of condemnation and accessibility exceptions.	Clarity.	None.
18. Redevelopment Exception Applicability §25-8-25 (A)(1); 25-8-26 (A)(1); & 25-8-27 (A)(1)	Need to clarify eligibility conditions for use of Redevelopment Exception options; under what conditions, if any, should a development be able to count unpermitted impervious cover toward its total IC area?	Require development built since January 1, 1992 to have been properly permitted in order to count towards use with the redevelopment exception options. 1992 is the year that the SOS Ordinance was adopted and the year following the Urban Watersheds Ordinance.	Strikes a balance allowing old developments prior to the SOS Ordinance era to redevelop and does not reward unpermitted impervious cover and other development after this time.	Some will want no unpermitted development to be counted and others will want all such development to count.
19. Urban & Suburban Watersheds Redevelopment Exception: Applicability §25-8-25(A) & [Deleted] (A)(6)	Expansion of BSZ Redevelopment Exception in BSZ & Water Supply watersheds warrants this older Exception be limited to Urban & Suburban watersheds.	Limit this Redevelopment Exception to Urban & Suburban watersheds. Clarify is a development option (choice).	Require the increased environmental benefits of the BSZ & Water Supply Redevelopment Exception options in these respective areas.	Original redevelopment exception was (occasionally) used in BSZ & Water Supply watersheds.
20. Urban & Suburban Redevelopment Exception: Traffic §25-8-25(B)(3)	Traffic requirement based on year 2000 traffic counts which are difficult to verify.	Base the traffic count estimates on the most recent authorized use of the property.	Simplicity.	None.

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
21. Urban & Suburban Redev. Exception: Existing Non-Compliance §25-8-25(B)(5)	The original Redevelopment Exception focuses only on overall site impervious cover & water quality controls; increased non-compliance--such as reduced stream setbacks--would not be prevented.	Disallow increased non-compliance with Critical Water Quality Zone, Critical Environmental Feature, and wetlands restrictions.	Prevent further environmental degradation.	Potential loss of site development flexibility--but would always still be able use existing footprint.
22. Urban & Suburban Redev. Exception: Erosion Hazard Zone §25-8-25(B)(6)	Erosion Hazard Zone concerns are not directly addressed by this option.	Require the redevelopment be placed outside the Erosion Hazard Zone, unless protective works are provided.	Prevent public & private expense and environmental damage of construction in Erosion Hazard Zone.	Additional construction cost (counterbalanced by cost to repair if not properly designed).
23. Urban & Suburban Redev. Exception: Erosion & Sedimentation Controls §25-8-25(C)	The original Redevelopment Exception does not address construction-phase erosion & sedimentation controls.	Require erosion & sedimentation controls be the most up-to-date at the time of construction (as was done in the 2007 Barton Springs Zone Redevelopment Exception).	Increased environmental protection during the construction phase.	Potential increase in construction cost--but is expectation of projects.
24. Barton Springs Zone Redevelopment Exception (BSZRE): Eligible Land Uses §25-8-26(A)	Existing code limits the use of the BSZRE to those with existing commercial land, which greatly limits the applicability and use of this option.	Allow the use of the BSZRE to all properties exception single-family residential and duplex properties; clarity is applicable to the Barton Springs Zone.	Offer BSZRE to more properties such that more on-site water quality controls & off-site mitigation land be protected & more urban revitalization be enabled.	Some have expressed concern that land disturbance and increased activity on the redeveloped sites will outweigh the advantages of the on-site controls and off-site mitigation.
25. BSZRE: Remove Original Redev. Option for BSZ §25-8-26(C)	See §25-8-393 (A), Item 19.	Strike reference to use of this section rather than 25-8-26 (since the latter now to be limited to Urban & Suburban watersheds).	Require the increased environmental benefits of the BSZRE options for redevelopment in the Barton Springs Zone.	Original redevelopment exception was (occasionally) used in BSZ watershed.

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
26. BSZRE: Critical Water Quality Zone §25-8-26(E)(2)	CWQZ development prohibition moved to §25-8-261 Critical Water Quality Zone Development. See item 76 below.	Rework references to Critical Water Quality Zone requirements, now consolidated in 25-8-261.	Clarity.	None. No change in regulations.
27. BSZRE: Partial Site Can Use §25-8-26 (E)(6)&(7)	BSZRE option requires the option be used for the "entire site;" unclear if can redevelop a portion of a site.	Allow this option to be used for a portion of a site rather than the entire site.	Increased flexibility & opportunity to use this option and associated benefits.	Will need to track during permitting process.
28. BSZRE: Critical Water Quality Zone §25-8-26 (E)(6)(b)	Director's approval of combination SOS & standard water quality controls not necessary.	Delete requirement that Director approval be required for proposed combination SOS & standard water quality controls.	Simplicity.	None.
29. BSZRE: Erosion Hazard Zone §25-8-26 (E)(9)	Erosion Hazard Zone concerns are not directly addressed by this option.	Require the redevelopment be placed outside the Erosion Hazard Zone, unless protective works are provided.	Prevent public & private expense and environmental damage of construction in Erosion Hazard Zone.	Additional construction cost (counterbalanced by cost to repair if not properly designed).
30. BSZRE: Multifamily Units & Council Approval §25-8-26 (G)	Projects proposing more than 25 multifamily units must receive Council approval, a potential barrier to small-scaled residential projects.	Allow projects to propose 25 net additional multifamily units without Council approval (rather than 25 total multifamily units).	Enable more potentially affordable housing choices & mixed use; reduced permitting cost.	Less direct oversight by Council.

25/23

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# Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

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Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
31. Redevelopment Exception in the Water Supply Rural and Water Supply Suburban Watersheds §25-8-27	Barton Springs Zone Redevelopment Exception not available for use in Water Supply watersheds, thereby limiting redevelopment opportunities and not extending the on- and off-site environmental benefits of the BSZ Redev. Exception.	Add new section to extend equivalent of BSZ Redevelopment Exception to Water Supply Rural & Water Supply Suburban watersheds. Provisions the same except requirements for structural water quality controls and, for WS Suburban, impervious cover for mitigation is set to 40% to match this area's impervious cover code. Establish a Water Supply Mitigation Fund.	Offer benefits of on-site water quality controls & off-site mitigation and expanded redevelopment opportunity to an area with limited redevelopment options.	Some have expressed concern that land disturbance and increased activity on the redeveloped sites will outweigh the advantages of the on-site controls and off-site mitigation.
32. Land Use Commission Variances §25-8-41	Need to update section numbers to reflect changes; clarity that applicant has the burden of proof; added Barton Creek Water Quality Transition Zone; moved wastewater language from 25-8-361 (A).	Clarifies burden of applicant; consolidates land use commission variance from 25-8-361.	Clarity and consolidation.	None.
33. Administrative Variances §25-8-42	Current code distributes administrative variances throughout the Chapter. Need to clarify burden to establish findings. Need to add new material.	Consolidate all administrative variance references in the Administrative Variance section for clarity. All the same as current code except (B)(1) & (5), discussed below. Add provisions for interbasin transfers: (B)(9) & (D)(6).	Clarity.	None.
34. Administrative Variances §25-8-42 (B)	Environmental Officer (WPD staff) approves administrative variances & thus WPD should be specified as Director.	Specify Director of WPD may grant variances to several sections of 25-8A.	Clarity.	None.

5/24/2013

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# Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

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Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
35. Administrative Variances: Critical Water Quality Zone (CWQZ) Buffers §25-8-42 (B)(1)	Currently code allows admin. variances to Article 7, Division 1, but that division does not prohibit development so development in critical is commission variance. Change to Article 7, Division 1 would change this to administrative.	Administrative variance requests for Critical Water Quality Zone must be shown to protect public health & safety or provide a significant, demonstrable environmental benefit as determined with a functional assessment of floodplain health.	Allows streamlined process for projects with significant, demonstrable public & environmental benefits.	Reduced public review of variances in the Critical Water Quality Zone--though conditions set out for the variance process, e.g., the functional assessment, to be developed with public stakeholder input for the Environmental Criteria Manual.
36. Administrative Variances: Critical Water Quality Zone (CWQZ) Buffers §25-8-42 (B)(2)	Current code allows administrative variances for development in the CWQZ in Urban Watersheds. Want to continue to encourage compact & connected development in the urban core but also want protections consistent with the WPO.	Continue use of administrative variance if development maintains a minimum 25 ft. setback, stays out of the erosion hazard zone (unless protective works provided), does not increase non-compliance, and restores vegetation.	Continue to offer facilitation of central development but with baseline protections for erosion & water quality.	None. Modest change; is mainly a clarification that the administrative variance exists but that a minimum buffer and EHZ requirements are needed.
37. Administrative Variances: Structural Control Drainage §25-8-42 (B)(5)	Currently can get an admin. variance for cut & fill for stormwater ponds but not associated drainageways.	Change to "for a water quality control or detention facility and appurtenances for conveyance such as swales, drainage ditches, and diversion berms"	Drainage works associated with admin. variances for pond cut & fill should be considered together.	None.
38. Administrative Variances: Sections moved from other places in the code §25-8-42	(B) (2) = current 262 (C) ; (B)(3) = current 281 (D); (D) (3) = current 281 (D); (D) 5 = current 343 (B)	Moving/consolidating administrative variances into one section.	Consolidation.	None.
39. Net Site Area §25-8-62(C)	Existing code not clear that Net Site Area does not apply to Urban watersheds; need to also add not applicable to Suburban watersheds.	Add text to clarify that Net Site Area does not apply in Urban or Suburban watersheds.	Clarity. See §25-8-392(A) below for more discussion.	None. See §25-8-392(A) below for more discussion.



5/18/2013

DRAFT Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes DRAFT

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
40. <i>Impervious Cover (IC) Calculations: Porous Pavement \$25-8-63 (B)(8) [Deleted]; (C)(8) &amp; (9)</i>	Credit for porous pavement unclear and may be given a new value; porous pavement fire lanes not given credit.	Clarify that porous pavement for pedestrian walkways does not count as impervious if designed in accordance with the ECM & not located over the recharge zone. Remove confusing 20% credit & replace in ECM with ability to use porous pavement as a water quality control for non-pedestrian pavement.	Porous pavement in suitable locations may help achieve watershed protection goals; clarifying could potentially help increase its use.	Potential massing implications due to alignment of zoning and watershed impervious cover definitions. Limited to pedestrian walkways so that larger-scale applications such as plazas and sport courts would not be exempt. Elimination of 20% credit may not be offset by advantages of using as water quality control.
41. <i>IC Calculations: Sidewalks in Public ROW \$25-8-63 (C)(1)</i>	Sidewalks in public easements need to be treated the same as those in public rights-of-way for purposes of impervious cover calculations.	Add "or public easement" to exclusion for sidewalks in public right-of-way.	Sidewalks are a public benefit (heath; alternative, non-polluting transportation; etc.); provision of sidewalks in public easements will increase their use.	Exclusion of impervious cover from site totals does not mean these surfaces will not have environmental impacts. (Note: water quality criteria for sidewalks & trails to be proposed to address this issue.)
42. <i>IC Calculations: Trail Surfaces \$25-8-63 (C)(2);</i>	Need to clarify that hard-surfaced trails (e.g., concrete, asphalt) are excluded from impervious cover for site calculations.	Specifically add publicly accessible, hard-surfaced multi-use trails to list of items excluded from impervious cover calcs. Note: need to develop new design criteria to address potential environmental impacts.	Hard-surface trails are much cheaper to install & maintain than soft surfaces (e.g., decomposed granite) & proper design can mitigate potential environmental impacts.	Exclusion of impervious cover from site totals does not mean these surfaces will not have environmental impacts. (Note: water quality criteria for sidewalks & trails to be proposed to address this issue.)
43. <i>IC Calculations: Water Quality &amp; Detention Controls \$25-8-63 (C)(3) &amp; (4)</i>	Current code exempts water quality & flood controls from IC calculations; but subsurface controls installed beneath impervious cover should not receive an exemption.	Clarify that subsurface water quality & flood controls covered with impervious surfaces count as IC.	Remove potential loophole.	None.

5/26

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Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

DRAFT

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
44. <i>IC Calculations:</i> <i>Gravel</i> <i>\$25-8-63 (C)(7)</i>	Current code does not distinguish between pervious gravel areas and those underlain with compacted base, which are functionally impervious.	Clarify that gravel areas to be counted as pervious must not be constructed with compacted base.	Encourage green infrastructure design elements; discourage use of hard linings that prevent infiltration of water and impair recharge & creek baseflow.	None.
45. <i>IC Calculations:</i> <i>Fire Lanes</i> <i>\$25-8-63 (C)(9)</i>	Fire lanes are seldom driven upon & therefore a lower pollutant loading risk than standard parking surfaces; current code & Environmental Criteria Manual (ECM) count fire lanes with interlocking pavers to be impervious.	Allow fire lanes built using ECM specifications for interlocking pavers to not count against a site's impervious cover totals; require crash barriers to limit vehicular traffic.	Increased design & spatial flexibility; low risk to water quality or for clogging due to low use/pollutant loads on surface (similar to pedestrian surfaces).	Less pervious, vegetated cover on site.
46. <i>IC Calculations:</i> <i>Vegetated Parking</i> <i>Garages</i> <i>\$25-8-63 (C)(10)</i>	\$25-1-23 (Impervious Cover Measurement) includes a provision to place soil & vegetation on subsurface parking garages and not count them as impervious cover. This provision needs to be included in 25-8.	Move code provisions from \$25-1-23 to \$25-8-63 for clarity and ensure compatibility. Specify Director of WPD approves.	Conservative requirement to provide 4 feet of soil above garage ensures continued pervious function, despite structure below. Encourages placement of parking below grade.	Stringent soil-depth provision will likely be barrier to frequent use.
47. <i>IC Calculations:</i> <i>Commercial</i> <i>Design Standards</i> <i>\$25-8-63 (D)</i>	25-2 Subchapter E allows internal porous pavement walkways to be exempted from impervious cover calculations; this is no longer needed since all such porous walkways are proposed as such under 25-8-63 (C)(8).	Remove redundant Commercial Design Standard credit. (Also change in 25-2.)	Clarity.	None.

42/5

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
48. Commercial ImperVIOUS Cover §25-8-65	Existing code not clear that impermeVIOUS cover for commercial applications needs to be accounted for on a site-by-site basis; not clear how to handle very small roadway projects regarding impermeVIOUS cover limits.	Add section for commercial impermeVIOUS cover with requirements that plans for commercial development demonstrate overall compliance with impermeVIOUS cover limits as phased development progresses. Exempt developments of less than 5,000 square feet of new IC; limited to road intersections, bike lanes, transit stops & low-water crossings.	Ensure that impermeVIOUS cover limits are respected for multi-phased projects, including the roadway portion. Exempt very small projects for flexible implementation, i.e., focus on the significant additions of impermeVIOUS cover.	Don't want to send message that new impermeVIOUS cover has no impacts. Need to ensure cannot have successive sub-5,000 square foot projects collectively increase a site's impermeVIOUS cover.
49. Roadways ["Boundary Street Deduction" §25-8-65 [Deleted]	Current code requires a deduction of a site's internal impermeVIOUS cover to account for adjacent roadway IC; but causes significant reductions in buildable area for some sites.	Eliminate boundary street deduction requirements.	Retains more buildable area on sites adjacent to roadways (logical location for higher IC); all such areas are required to meet own IC limits & provide on-site water quality controls. Reduces complexity. Avoids cases of extreme loss of impermeVIOUS cover on a site due to unusual lot geometry.	Allows (small) increase in impermeVIOUS cover in the Drinking Water Protection Zone. (Urban & Suburban watersheds not affected.)

CS/8

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
ARTICLE 2. WATERWAYS CLASSIFIED; ZONES ESTABLISHED				
50. Waterway Classifications [Headwater Creek Buffers] §25-8-91	Buffers only extend to waterways with greater than 320 and 128 acres of drainage in some watersheds. Results in up to a 50% reduction in the stream mileage protected compared to protections for Austin's best protected creeks. Six different systems exist across the City, adding to complexity & confusion.	Standardize drainage area thresholds for all waterway classifications citywide (except Urban):  * Minor = 64-320 acres; * Intermediate = 320-640 acres; * Major = 640+ acres.  Is system currently used in Water Supply Rural & majority of Barton Springs Zone.	Simplifies a complex system to use one strategy across entire jurisdiction. 64-acre threshold coincides with floodplain delineation & stream buffers elsewhere in City jurisdiction. Addresses Erosion Hazard Zone: esp. critical in prairie/clay creeks; is public safety issue; prevents costly infrastructure repair; prevents wastewater line construction directly in channel (key strategy for Bacteria TMDL); buffers on small streams (e.g., 64-acre drainage areas) correlated with stream health; doubles stream mileage protected; keeps streams out of pipes/straightened channels.	64-acre buffers provide constraint in highly urbanized areas (e.g., commercial & mixed use centers): may warrant mitigation system (see below) for limited areas of higher intensity development (e.g., Imagine Austin Comprehensive Plan sanctioned activity centers & corridors). Critical Water Quality Zone is barrier to road crossings, connectivity & water quality control placement (see methods to address below).
51. Critical Water Quality Zones (CWQZs) Established: Fully Developed Floodplain Boundary §25-8-92 (A)	Buffer section for Barton Springs Zone, Water Supply Rural & Water Supply Suburban needs to be distinguished from the Suburban watersheds (which now need a new, separate section (F)--see below).	Retain current widths in the Drinking Water Protection Zone (DWPZ), since these are adequate for erosion hazard & water quality protection. State the use of the 100-year Fully Developed Floodplain to help define the CWQZ buffer widths for classified waterways in the Barton Springs Zone, Water Supply Rural & Water Supply Suburban watersheds.	Clarity. Distinguish between classification systems. Western creek buffers are protective and do not need to be modified.	None.

# **Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes**

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Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
52. <i>CWQZs Established: Exceptions for Public Roads</i> §25-8-92 (A)(2) & (B)(5)	Current practice does not apply stream buffers to waterways considered permanently altered (e.g., highway drainageways); but is not clear Code directive.	Exempt roadside drainageways that cannot be restored to natural conditions from Critical Water Quality Zone requirements.	Recognizes practical limitations of stream buffer application; codifies existing City policy; needs objective guidance on making determination	Some (esp. large) waterways may be in good condition or have good potential for restoration, compromising present or future ecological function; system should protect.
53. <i>CWQZs Established: Crest of Bluff</i> §25-8-92 (A)(2) [Deleted]	Current code exempts a "crest of a bluff" from Critical Water Quality Zone protections, exposing development in such a location to erosion hazards.	Delete the exception for crests of bluffs. Exemptions possible using variance process.	Provide erosion hazard protection to development on bluffs. Relatively few sites meet the full definition of bluff. Variance process available if reduced CWQZ warranted.	Potentially could push back the footprint of development from high bluffs; would need to use a variance to move it closer (with evidence that it would not cause Erosion Hazard issues).
54. <i>Established: Suburban Buffer Widths</i> §25-8-92 (B)	Suburban watersheds are poorly served by their current geometry: too narrow to protect water quality and from erosion hazards.	In Suburban watersheds, provide buffer width of 100, 200 & 300 feet for "minor," "intermediate," & "major" waterways respectively to protect water quality and the Erosion Hazard Zone and provide a uniform system.	Similar to 64-acre §25-8-91 buffer lengths above: better stream & property protection, reduced long-term public & private expense to repair damage.	Wider width reduces developable footprint. (But counterbalancing with Gross Site Area & elimination of Water Quality Transition Zone buffer.)
55. <i>CWQZs Established: Buffer Averaging</i> §25-8-92 (B)(4)	Proposed new buffer system could be difficult to implement in some cases due to site-specific constraints.	Add buffer averaging option for Suburban watersheds to adjust width and add length to achieve same overall footprint of buffer.	Adds flexibility to buffer design to work around site-specific geographic & cultural features.	Must ensure key existing features (e.g., woodlands) are not eliminated while less valuable areas are extended protection.
56. <i>CWQZs Established: Urban Buffer Widths</i> §25-8-92 (F)	Urban buffer widths are adequate but should be based on the 100-year fully developed floodplain.	Retain current widths in the Urban watersheds, since it is not practical/feasible due to extent of existing development. But base the width variation on the 100-year fully developed floodplain, as is used for the western buffers, rather than the current 100-year FEMA floodplain.	Consistency. Note that FEMA & Fully Developed floodplains in the Urban watersheds are almost always coincident, so the change is slight.	None.

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
57. <i>Water Quality Transition Zone (WQTZ)</i> §25-8-93	Water Quality Transition Zones (WQTZs) constitute a second & less protective buffer beyond CWQZs in Suburban Watersheds: e.g., 30% IC is allowed. They are not as useful as the CWQZ buffers & their requirement adds complexity and limits flexibility for development.	Eliminate the Water Quality Transition Zone in Suburban Watersheds in exchange for other new requirements above (e.g., extend CWQZ to headwaters, etc.). Retain in the Barton Springs Zone, Water Supply Rural & Water Supply Suburban watersheds.	Provision of a more extensive CWQZ on smaller creeks is more valuable for water quality & erosion management than retaining the WQTZ on larger creeks.	Enables higher density on site nearer to creek in areas that currently require a WQTZ (note: would be considered an advantage from development perspective).
<b>ARTICLE 3. ENVIRONMENTAL RESOURCE INVENTORY (ASSESSMENT); POLLUTANT ATTENUATION PLAN</b>				
58. <i>Environmental Resource Inventory</i> §25-8-121	Unrelated, federal Phase I Environmental Assessment requirements share the same name as existing City requirement, creating confusion.	Change the name to "Environmental Resource Inventory."	Clarify.	None.
59. <i>Environmental Resource Inventory</i> §25-8-121 (B)(3)	Requirements to justify storm drains problematic in urbanized settings where they may be necessary and avoid environmental damage.	Eliminate the storm drain justification requirement; add an ECM cross-reference. Better approaches exist to encourage green infrastructure than this requirement (which has had little practical impact).	Eliminate code conflicts; support Imagine Austin's "compact & connected" mandate.	None. But need to clarify that the original intent will be retained in other code & criteria provisions.
60. <i>Environmental Resource Inventory</i> §25-8-121(D)	Watershed Protection Dept. staff process administrative variances for components of the Environmental Resource Inventory & thus WPD should be specified as Director.	Specify Director of WPD may exclude information from Environmental Resource Inventory if determined unnecessary for scope & nature of development.	Conform with current practice.	None.

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
ARTICLE 4. MANAGEMENT PRACTICES; ENGINEER'S CERTIFICATION				
61. <i>Innovative Management Practices</i> §25-8-151	Section is currently used for dual purposes of reviewing innovative water quality controls and management practices for critical environmental features (CEFs). However, the current wording of this section does not treat these two purposes as separate.	Distinguish between innovative water quality controls and innovative management practices for CEFs. New section (A) speaks to water quality controls; existing section (now B) speaks to CEFs.	Clarity.	None.
62. <i>Innovative Management Practices</i> §25-8-151 (B)	Statement that "the City encourages innovative management practices" is well intentioned but is not an enforceable code provision.	Delete subjective language. The Land Development Code, as currently written, does not include statements of purpose.	Consistency.	Risks sending message that the City is not interested in innovation. Address in program implementation.
ARTICLE 5. EROSION AND SEDIMENTATION CONTROL; OVERLAND FLOW				
63. <i>Overland Flow</i> §25-8-185	Storm drain references problematic in urbanized settings where they may be necessary and avoid environmental damage. References to maintenance of overland flow does not apply to many sites.	Add the words "and restore" to acknowledge many sites need repair, not just preservation. Remove language prohibiting construction of enclosed storm drains [similar to §25-8-121 (B)(3)]. Other minor rewording.	Eliminate conflict with 25-7 Drainage chapter; low-impact drainage to be incentivized in other code & criteria sections.	None. But will need to clarify that the original intent will be retained in other code & criteria provisions.
64. <i>Fiscal Security for Erosion and Sedimentation Controls</i> §25-8-186	Fiscal security requirements for erosion and sedimentation controls are currently located in 25-7-65 (drainage chapter) but better belong in the 25-8 Environment chapter.	Move language from 25-7 into the Erosion and Sedimentation article of 25-8.	Clarity.	None. Text moved unchanged.

CS/32

D R A F T

**Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes**

D R A F T

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
<b>ARTICLE 6. WATER QUALITY CONTROLS</b>				
65. <i>Structural Water Quality Controls: Threshold for When Controls Required</i> §25-8-211 (B)&(C)	Outside of the BSZ and Urban Watersheds, current code does not require permanent water quality controls ("ponds") on sites with less than 20% impervious cover (IC), no matter how much total IC is proposed. Projects with hydraulically connected impervious cover can have significant water quality impacts, even when under 20% IC unless controls are provided.	Require WQ controls for projects with over 5,000 square feet of IC. 5,000 is the requirement for water quality controls in the TCEQ Edwards Aquifer Rules, EPA requirements for federal projects, and existing Environmental Criteria Manual requirement for Urban watersheds.	Prevents large areas of hydraulically connected IC from creating problems; reduces public costs to repair downstream erosion & water quality problems created without controls; controls on low IC sites typically low cost; consistent with TCEQ Edwards Aquifer Rules; eliminates need for tiny water quality controls.	Minor increase in private cost to build certain projects. Minor off-site impacts by projects previously required to provide very small controls.
66. <i>Structural Water Quality Controls: Single-Family &amp; Duplex Lots</i> §25-8-211 (D)	Currently not clear that water quality control requirements do not apply to individual single-family or duplex lots, but rather to the residential subdivision as a whole.	Clarify that the requirements do not require water quality controls on a single-family or duplex lot but apply to the residential subdivision as a whole.	Clarity.	None.
67. <i>Structural Water Quality Controls: Small Roadway Projects</i> §25-8-211(E)	It is disproportionately expensive & technically difficult to provide water quality controls for very small roadway projects, most of which provide other environmental benefits.	Exempt small roadway projects of less than 5,000 square feet of impervious cover from requirements for on-site water quality controls. Use same 5,000 threshold used for small site impervious cover (see §25-8-211 B&C above).	Reduction in high logistical & financial costs for very small controls with low environmental benefits.	Minor off-site impacts by projects previously required to provide very small controls.
68. <i>Water Quality Control Standards: Pond Accessibility</i> §25-8-213(A)(3)	Commercial ponds are being constructed that are not reasonably accessible either for City inspection or for private maintenance.	Add requirement that ponds must be accessible for maintenance and inspection. (Must design for needed equipment & personnel to reach pond, perform repairs, etc.)	Ensures that ponds continue to function properly over time. Removes burden of problematic access from future property owners/managers.	Limitation on design flexibility.



5/3/13

D R A F T

**Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes**

D R A F T

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
69. <i>Structural Water Quality Controls: Water Quality Volume Isolation §25-8-213(B)</i>	Current code requires the "isolation" of the water quality volume, making it difficult to combine flood and water quality volumes for space efficiency and reduced cost.	Delete the term "isolate" from this section; where appropriate, require isolation of the water quality volume in the Environmental Criteria Manual, but on a control-by-control basis.	Allow the "stacking" of water quality & flood capture volumes to reduce cost & increase space efficiency; increase WQ function for most storms; reduce complexity of designs.	Isolation of water quality volume originally done to avoid "re-suspension" of captured pollutants and to prevent damage to the WQ pond; but both concerns can be addressed using design criteria.
70. <i>Structural Water Quality Controls: Water Supply Rural §25-8-213(C)(3)</i>	Existing code for Water Supply Rural development relies on the 40% buffer zone for water quality control; with the new 5,000 square foot impervious threshold, this will no longer be necessary and the 40% buffer should be better protected to avoid damage.	Add provision to cap disturbance of the 40% buffer at 50% or less. (50% threshold taken from the Hill County Roadway Ordinance.)	Reduce modifications & construction-phase damage in 40% buffer.	None. Should be sufficient space remaining to locate controls.
71. <i>Payment-in-Lieu of Water Quality Controls in Urban Watersheds: Director Approval §25-8-214(A)</i>	Watershed Protection Dept. staff administer the payment-in-lieu of on-site water quality control program & thus WPD should be specified as Director.	Specify Director of WPD to identify & prioritize water quality controls in the Urban watersheds, etc.	Conform with current practice.	None.
72. <i>Payment-in-Lieu of Water Quality Controls in Urban Watersheds: Criteria &amp; Process §25-8-214(C)</i>	Current code does not refer to the Environmental Criteria Manual, which contains key information on the administration of this provision. The current requirement that the director accept or deny requests within 15 days is not practical due to the complexity of these requests.	Add a reference to the Environmental Criteria Manual. Delete the requirement to process within 15 days.	Clarity (reference to ECM). Pragmatism (processing time).	None.

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
73. <i>WQ Control Maintenance &amp; Inspection: Subsurface Controls</i> §25-8-231(D)&(E)	Watershed Protection Dept. staff inspect & maintain water quality structural controls per code & thus WPD should be specified as Director.	Specify Director of WPD authorized to make arrangements for City vs. privately maintained WQ ponds & charge re-inspection fees for failed inspections. Spell out Drainage Criteria Manual.	Conform with current practice. Clarity.	None.
74. <i>WQ Control Maintenance &amp; Inspection: Subsurface Controls</i> §25-8-231(E)&(F)	Construction of subsurface water quality (WQ) is not currently limited & results in facilities that are expensive, and difficult to inspect and maintain. City staff not equipped to inspect these systems.	Require maintenance plan and 3rd party inspections with annual reporting for all subsurface water quality controls. Add that City inspections not required (since will be done by 3rd party).	Control the quality of designs and ensure proper inspection & maintenance of subsurface controls.	Expense to property owners (though otherwise no maintenance assured); administrative cost to City.
75. <i>Dedicated Fund</i> § 25-8-232	Various items not clear.	Clarify is Finance Dept. to establish fund & role of Watershed Protection Department.	Clarity.	None.
<b>ARTICLE 7. REQUIREMENTS IN ALL WATERSHEDS</b>				
76. <i>Critical Water Quality Zone (CWQZ) Development Prohibited</i> §25-8-261	Current code prohibits development in the CWQZ (with noted exceptions) in locations scattered throughout Chapter 25-8: 25-8-391 (Suburban Watersheds); 25-8-422 (Water Supply Suburban); 25-8-452 (Water Supply Rural); and 25-8-482 (Barton Springs Zone).	Consolidate references to a single location in the CWQZ section: Development prohibited in the CWQZ except as noted.	Clarity.	None. No change in substance.
77. <i>CWQZ Development: Open Space</i> §25-8-261(B)	Current code defines uses permitted in the CWQZ (parks, golf courses, open spaces, etc.). Meaning of open space is not clear.	Define and better clarify "open space" in Definitions section 25-8-1(11); includes multi-use trails. See more discussion above in 25-8-1(11).	Clarity. Underscores open space as central land use in CWQZ & ability to locate trails in these areas.	None. Potential trail impacts to be addressed in trails criteria & requirements to place trails in outer half of CWQZ.

CS/34

5/3/20

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
78. CWQZ <i>Development:</i> WSR and B SZ Open Space §25-8-261(B)(1)	Current Water Supply Rural (WSR) and Barton Springs Zone (BSZ) section limits uses in CWQZ, but does not specifically prohibit athletic fields; does not allow sustainable urban agriculture or community gardens.	Adjust text to speak to urban agriculture and community gardens. Change "hiking, jogging, or walking trails" to multi-use trails for consistency. Prohibit new athletic fields; allow existing fields to remain.	Promotes the goals of the Imagine Austin Comprehensive Plan & the Watershed Protection Master Plan. Develop design criteria to address water quality & riparian concerns. Consistency.	Potential damage to riparian zones with increased nutrient application & suppression of native riparian vegetation. Mitigate with proper design & setbacks from waterways; some especially sensitive areas should be off-limits.
79. CWQZ <i>Development:</i> Master Planned Parks §25-8-261(B)(2)	Current code allows master-planned parks (reviewed by Land Use Commission, approved by Council) in the Barton Springs Zone to include recreational development in the CWQZ; not an option for Water Supply Rural parks.	Expand option for use in Water Supply Rural parks.	Grants same exception that already exists in the Barton Springs Zone; squares with the fact that the Code is more restrictive for park uses within the BSZ and water supply rural watersheds.	None. Note: is rarely utilized provision.
80. CWQZ <i>Development:</i> Trails §25-8-261(B)(3)	Current code is not clear as to whether bicycle & pedestrian trails may be built in CWQZs.	Specify that hard-surfaced trails are permitted in CWQZs if (a) placed outside the Erosion Hazard Zone (EHZ); (b) built in accordance with the Environmental Criteria Manual (ECM); and (c) width is maximum 12 ft., unless Master Planned by Council. In Urban watersheds, trails must be out of 25 ft. buffer; elsewhere out of half-CWQZ.	Clarify. Aligns environmental code with City goals to improve connectivity via alternative transportation. Provides safeguards for creek: outside EHZ and ECM [or Transportation Criteria Manual] to require designs which account for stormwater runoff to mitigate erosion and other negative impacts.	Potential damage to riparian zones with increased impervious surfaces & public use. See Multi-Use Trail discussion above in 25-8-1(10).

5/26

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# Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

DRAFT

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
81. CWQZ <i>Development: Urban Agriculture &amp; Community Gardens</i> §25-8-261(B)(4)	Not clear in current code whether urban agriculture (e.g., small, low-impact farms) or community gardens are allowed in the CWQZ.	Add new allowance for community gardens and sustainable urban agriculture in the "upper half" of Suburban CWQZs and beyond a 25-foot Urban setback. Must design in accordance with (new) criteria in the Environmental Criteria Manual (ECM). Structures larger than 500 square feet not allowed (obstruct flows, intrude in area intended for natural land cover).	Promotes the goals of the Imagine Austin Comprehensive Plan & the Watershed Protection Master Plan. Develop design criteria to address water quality & riparian concerns.	Potential damage to riparian zones with increased nutrient application & suppression of native riparian vegetation. Mitigate with proper design & setbacks from waterways; some especially sensitive areas should be off-limits.
82. CWQZ <i>Development: Athletic Fields in Urban &amp; Suburban Watersheds</i> §25-8-261(B)(5)	No restrictions on athletic fields in the CWQZ; fields too close to waterways/in CWQZs can displace natural vegetation, compact soils, and otherwise impair proper riparian buffer function.	Require athletic fields in Urban watersheds to be min. 25 ft. from centerline of waterway; in Suburban watersheds min. 50 ft. for minor, 100 ft. for intermediate, and 150 for major waterway. Combine with an administrative variance (25-8-42) to consider placing them closer if site conditions warrant.	Strikes a balance between watershed protection and community use of riparian areas.	Reduces full footprint of riparian buffer and its benefits.
83. CWQZ <i>Development: Barton Springs Zone Exceptions</i> §25-8-261(C)	Current code allows boat ramp dock, pier, wharf, or marina in Barton Springs Zone CWQZ.	Delete this exception. Also delete language about pedestrian & bicycle bridges. Clarification: the area downstream of the Barton Springs pool is designated as "Water Supply Suburban," not Barton Springs Zone.	Construction of boat ramp docks, piers, etc. not appropriate in BSZ. Bicycle/pedestrian text redundant since these crossings now clarified to be allowed in all CWQZs.	If boat ramp docks, piers, etc. sought, will have to handle using master planned park provision or via variance. But is appropriate scrutiny for intrusive uses.

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
84. <b>CWQZ</b> <i>Development:</i> <i>Utility Line</i> <i>Crossings</i> §25-8-261(D)	Current code allows utility lines (e.g., wastewater lines) to cross CWQZs, but does not address future channel downcutting/erosion, the angle of crossing, or tying in to existing lines.	Specify "the most direct path" must be used to minimize utility line disturbance. Require erosion hazard zone assessments for utility crossings (depth component). Require line be outside of the Erosion Hazard Zone, unless protective works are provided. Allow lines to cross into (tie in to existing lines) or cross through CWQZs. Clarify refers to storm drain infrastructure too. Specify WPD Director must approve crossings in the Barton Springs Zone.	Prevention of future public and private costs & damage to infrastructure & waterways. Most utility lines already designed to cross using direct path. Tie-ins to existing lines avoids cost & disruption of relocating lines; must ensure tie in out of Erosion Hazard Zone.	Additional construction cost to increase line depth (counterbalanced by cost to repair if not properly designed).
85. <b>CWQZ</b> <i>Development:</i> <i>Utility Line</i> <i>Location</i> §25-8-261(E)	Current code allows utility lines (e.g., wastewater lines) to cross CWQZs, but does not allow lines to run parallel to the waterway in the CWQZ.	Allow utility lines in the "upper half" of Suburban CWQZs and beyond a 50-foot Urban setback. Must also be outside of the Erosion Hazard Zone, unless protective works are provided, & outside of Critical Environmental Feature (CEF) buffers; also must avoid protected trees (address in Environmental Criteria Manual).	Reduce cost & environmental impact of deep wastewater trenching. Area nearest creeks & environmentally sensitive features still off-limits.	More disruption near creeks than if excluded from CWQZ entirely. Potential damage mitigated by erosion hazard, Critical Environmental Feature, and tree provisions.
86. <b>CWQZ</b> <i>Development:</i> <i>Detention Basins &amp; WQ Controls</i> §25-8-261(F)	Current code permits on-line (in channel) detention basins to be built in CWQZs; but practice impairs waterway function & should be avoided where possible and, where necessary, need special design guidance.	Change "permitted" to "prohibited" for detention & wet ponds in the CWQZ unless certain conditions are met: must meet Floodplain Modification provisions and must be designed per the Drainage & Environmental Criteria Manuals.	Send message that on-line controls should be the exception, not the rule. Require adherence to protective design criteria to prevent damage to channel bed, banks, and flow regime and associated unsustainable repair costs.	Modest reduction in convenience of flood detention as conventionally designed.

5/38

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# Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

DRAFT

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
87. CWQZ <i>Development:</i> <i>Floodplain Modifications Prohibited</i> §25-8-261(G)	Current code allows floodplain modification in the Critical Water Quality Zone (except in BSZ), an area that is environmentally sensitive and requires a high level of protection.	Disallow floodplain modification in the Critical Water Quality Zone in all watershed regulatory areas, except for cases of protecting public health & safety; providing significant, demonstrable environmental benefit; or where otherwise permitted (e.g., street & utility crossings).	Adequate riparian zone protection is a central pillar of watershed health. Exceptions should only be made to correct environmental damage or to protect health & safety due to existing problems.	Reduces convenience of flood detention and conveyance as conventionally designed. Note: Need to find other areas to capture flexibility than sensitive riparian areas.
88. CWQZ <i>Development:</i> <i>Detention Basins &amp; WQ Controls</i> §25-8-261(H)	Current code does not allow water quality controls to be built in CWQZs; but some water quality controls are complementary to riparian areas under certain conditions.	Allow green water quality controls in the "upper half" of Suburban CWQZs, beyond a 50-foot Urban setback, outside the 100 year floodplain, & outside Erosion Hazard Zone, unless protective works are provided.	Adds flexibility to site design; more effective placement of WQ controls to help with baseflow enhancement; can help restore function and condition of buffer.	Need to make sure buffer not overly encroached--if too close, controls may be damaged by erosion/flooding and/or will impair the functionality of the buffer.
89. CWQZ <i>Development:</i> No <i>Small Single-Family Lots in CWQZ</i> §25-8-261(I)	Current code does not prevent the inclusion of CWQZ areas in residential lots, contributing to alteration & vegetative clearing of riparian areas.	Disallow location of single-family lots less than 5,750 square feet in CWQZ buffers.	Avoid risks to both creeks & property owners; standard practice in recent past has been to exclude CWQZ from SFR lots (i.e., does not represent big change in practice).	Reduced design flexibility.
90. CWQZ Street Crossings §25-8-262(B)(3)(a)	Current code limits the frequency of minor stream crossings in CWQZs to every 1,000 feet; maximum block length in Subdivision Code 25-4-153 is 900 feet (without pedestrian transect).	Change minimum CWQZ street crossing spacing requirement to 900 feet for 64-acre minor waterways in the DDZ.	Aligns several code provisions with minimal downside.	None: few to no additional bridge crossings (and potential for associated environmental disruption) anticipated with this change.

5/3/19

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
91. CWQZ Street Crossings: Bicycle & Pedestrian Crossings §25-8-262(C)	Current code is not clear as to whether bicycle and pedestrian trails may cross CWQZs.	Specify that multi-use trails are permitted in CWQZs.	Clarity. Aligns environmental code with City goals to improve connectivity via alternative transportation.	Potential damage to riparian zones with increased impervious surfaces & public use. See Multi-Use Trail discussion above in 25-8-1(10).
92. CWQZ Street Crossings §25-8-262(D)	Current code limits the frequency of stream crossings in all but Urban watersheds. This provision may conflict with the Imagine Austin Comprehensive Plan objective to facilitate connectivity and associated social and environmental benefits.	Add an option to allow street crossings within CWQZs within identified Imagine Austin Comprehensive Plan centers & corridors; crossing must maintain water quality & quantity of recharge in recharge & contributing areas of the Edwards Aquifer. Does not apply to the Barton Springs Zone.	Aligns with Imagine Austin goals to facilitate connectivity in designated centers & corridors.	None anticipated: street crossings are expensive and proposed infrequently.
93. CWQZ Street Crossings §25-8-262(C) [Deleted]	Current code provides an administrative variance to Street Crossings of CWQZs except in the Barton Springs Zone.	Maintain provision but move to Administrative Variance section 25-8-42(B)(2).	Consolidation.	None. No change in substance.
94. Critical Environmental Features (CEFs) §25-8-281 (C)(1)(b)(3)	Methods to calculate the geometry of CEFs is stated in the Environmental Criteria Manual but needs to be supported by Code.	Add a code reference to the Environmental Criteria Manual provisions to calculate CEF buffer geometry.	Clarity.	None.
95. CEF Protections: Innovative Options §25-8-281(C)(3)(c)	25-8-151 (Innovative Management Practices) includes a provision to enhance recharge; the CEF section needs to reflect this possibility.	Add a cross reference to 25-8-151 to 25-8-281.	Consistency.	None. Supports existing practice.
96. CEF Protections: Protective Fencing §25-8-281(C)(4)	Current code does not specify CEF buffer areas to be left in natural state & protected with fencing where needed.	Add language to require perimeter fencing for recharge features (caves, sinkholes) & requirement to leave buffer in natural state.	Strengthened CEF provisions to protect the features & the public.	Some additional cost to build & maintain fencing; no extra cost (possible savings) for leaving in natural state.

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D R A F T

Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

D R A F T

Description	Current Status/Concern	Proposed Improvement	Anticipated impacts	
			Advantages	Disadvantages
97. CEF Protections: Owner Responsible §25-8-281(C)(5)	Need clarification in the Environmental Criteria Manual (ECM) as to how preserve the water quality function of the buffer.	Add language to Code clarifying owner is responsible for CEF buffer maintenance per criteria in the ECM.	Codifies current practice.	None.
98. CEF Protections: Void Mitigation §25-8-281(C)(5)	Void mitigation addressed in the ECM but needs to be supported by Code.	Add language to Code matching the ECM requirements.	Codifies current practice.	None.
99. CEF Protections: Administrative Variance §25-8-281 Deletion	Current code provides an administrative variance to CEF protections except for locations at or within 500 feet of the shoreline of Lake Austin.	Maintain provision but move to Administrative Variance section 25-8-42(B)(3).	Consolidation.	None. No change in substance.
100. Wetlands Protection: Area Clarification §25-8-282	Current code references the "central business area" which is not defined. Watershed Protection Dept. staff process wetlands permitting & thus WPD should be specified as Director.	Add language denoting the area as bounded by IH-35, Riverside Dr, Barton Springs Rd, Lamar Blvd, & 15th Street, consistent with other references in 25-8 (e.g., 25-8-92(E)). Specify Director of WPD.	Clarity.	None.
101. Construction of a Building or Parking Area §25-8-302(B)(3)	Current code requires hillside restoration with native vegetation. native options can be limited in availability and effectiveness.	Specify that hillside revegetation can use native <u>or</u> adapted plants and that guidance be provided in the Environmental Criteria Manual.	Added flexibility: ECM guidelines intended to prevent use of potentially harmful or invasive plants.	None on balance: risk of problems with non-native plants must be weighed against benefits of adapted plants.
102. Spoil Disposal §25-8-343	Current code provides an administrative variance to spoil disposal requirements.	Maintain provision but move to Administrative Variance section 25-8-42(B)(7).	Consolidation.	None. No change in substance.
103. Wastewater (WW) Restrictions: CWQZs §25-8-361(A) [Deleted]	Provision to prohibit wastewater lines in Critical Water Quality Zones (CWQZ) more logically belongs in CWQZ section. Two-year floodplain provision out of date.	Move provision to CWQZ section 25-8-261(D). Delete reference to the two-year floodplain: new requirements for Erosion Hazard Zone provide these protections.	Consolidation & clarity.	None. No change in substance.



15/5

D R A F T

**Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes**

D R A F T

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
104. <i>WW Restrictions: On-Site Systems over Edwards Aquifer §25-8-361(A) [Formerly (B)]</i>	Current code reference to on-site sewerage systems in the Edwards recharge area need to refer to the relevant Code section.	Refer to City Code Chapter 15-5 (Private Sewage Facilities).	Consistency.	None.
105. <i>WW Restrictions: Water Supply Rural §25-8-361(C) [Deleted]</i>	Reference to 40 percent buffer zone more logically belongs in Water Supply Rural Section.	Move provision to Water Supply Rural section 25-8-453(C)(2).	Consolidation & clarity.	None. No change in substance.
106. <i>Wastewater Restrictions §25-8-361(D),(E) &amp; (G) [Deleted]</i>	Current code regulates some aspects of wastewater infrastructure that may conflict with State Law.	Remove or modify code to square with State requirements.	Original code no longer relevant. Remove for clarity.	None.
107. <i>Wastewater Restrictions §25-8-361(B)(4) [Formerly (F)]</i>	Construction of wastewater disposal systems too close to existing, established trees can cause damage to the trees and should be avoided.	Prohibit wastewater treatment with land application on the trunk of a protected tree (since such direct application can harm the tree).	Protect trees.	Minor reduction in convenience of wastewater application infrastructure.
108. <i>Wastewater Restrictions §25-8-361(B)(5) [Formerly (F)]</i>	Construction of wastewater disposal systems too close to Critical Environmental Features (CEFs) can cause damage to the features and should be avoided.	Prohibit wastewater treatment with land application inside CEF buffers.	Provide adequate distance between wastewater infrastructure and sensitive environmental features, such as karst features & springs.	Minor reduction in convenience of wastewater application infrastructure.

25/5/2

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
109. Floodplain Modifications §25-8-364 [New]	Regulation of floodplain modifications is a key element of watershed protection; current code and criteria lacks clarity and consolidation.	Add a section in 25-8 clarifying requirements for modifying floodplains. Prohibit floodplain modification except for cases protecting public health & safety, providing significant, demonstrable environmental benefit using a "functional assessment"; in an area outside the CWQZ in "fair" or "poor" condition; or where otherwise permitted (e.g., street & utility crossings). Sites proposing modification must be designed to accommodate both existing and fully-vegetated conditions; per practices described in the Drainage & Environmental Criteria Manuals; and must restore floodplain health or provide mitigation if restoration is infeasible. Functional assessments of floodplain health will be used to determine "significant, demonstrable environmental benefit." Mitigation provisions are outlined, both on- and off-site.	Provides approach to objectively evaluate existing floodplain health and provide incentives to preserve and methods to restore. Ensures future designs will enable full riparian vegetation and the many benefits provided. Allows flexibility of off-site mitigation where needed and appropriate.	Reduces development flexibility & complicates provision of flood mitigation as conventionally designed. Note: Need to find other areas to capture flexibility than sensitive riparian areas.

5/3/23

**DRAFT Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes DRAFT**

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
110. <i>Interbasin Diversions</i> §25-8-365 [New]	Rules concerning the transfer of runoff from one basin to another are not clear and are needed where development proposes to move runoff from a basin of one watershed classification to a different one.	Limit transfers to 20% of a site or 1-acre maximum, whichever is less. Allow administrative approval of transfers within the same watershed class. Require a Commission variance to move water from one watershed classification to another (e.g., from the Barton Springs Zone to an Urban Watershed).	Maintain natural drainage patterns with some flexibility within watershed classifications; clarifies & makes consistent the permitting process.	May require additional design & expense for some developments.
<b>ARTICLE 8. URBAN WATERSHED REQUIREMENTS</b>				
111. <i>Urban Watersheds Requirements</i> Article 8 [New]	Current code provides a special section for all watershed classifications except Urban Watersheds; this omission has led to gaps in protection and clarity.	Add "Urban Watershed Requirements" section to spell out that development is prohibited in the CWOZ and clarify impervious cover limits in the Uplands Zone & ETJ.	Clarifies requirements.	None.
<b>ARTICLE 9. SUBURBAN WATERSHED REQUIREMENTS</b>				
112. <i>Critical Water Quality Zone</i> §25-8-392 [Deleted]	CWOZ development prohibition moved to §25-8-261 Critical Water Quality Zone Development. See item 76 above.	Consolidate all references to prohibition of development in the Critical Water Quality Zone to 25-8-261.	Clarity.	None. No change in regulations.
113. <i>Water Quality Transition Zone</i> §25-8-393 [Deleted]	Water Quality Transition Zone setbacks proposed to be eliminated for Suburban Watersheds. See discussion in item 57 above; §25-8-93 Water Quality Transition Zone.			
114. <i>Uplands Zone: Gross Site Area Impervious Cover</i> §25-8-392(A)	Current rules use "Net Site Area" formula which is complex and complicates development on properties with stream buffers.	Use "Gross Site Area" basis for impervious cover calculations.	Reduces complexity of IC calculations; increases opportunities to develop properties with buffers, thus especially key with introduction of headwaters buffers.	For sites where IC increases, will decrease baseflow and increase reliance on structural controls to mitigate stormwater runoff impacts.

5/5

DRAFT Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes DRAFT

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
115. Uplands Zone: Impervious Cover (IC) Limits §25-8-392(B)	Not clear that Brushy Creek watershed includes the subwatersheds of South Brushy and Buttercup.	Clarify that Brushy Creek watershed includes the subwatersheds of Buttercup and South Brushy.	Clarification.	None.
116. Uplands Zone: Impervious Cover (IC) Limits §25-8-392 (B)(5)&(C)(5)	Impervious cover limit for mixed use projects is not clear; is included in the Environmental Criteria Manual but should also be in code.	Add mixed use impervious cover limit based on the ratio of ground-floor commercial vs. multifamily residential.	Clarification.	Method may be reevaluated during the Imagine Austin Comprehensive Plan code revisions.
117. Transfer of Development Intensity: Impervious Cover Limits Apply §25-8-393(A)	Current code does not clarify that impervious cover (IC) transferred from other areas to the Uplands must still respect Upland impervious cover limits.	Add text to clarify that Uplands impervious cover is subject to IC limits. (Note that IC levels are higher with transfers than without.)	Clarify.	None.
118. Transfers: Critical Water Quality Zone §25-8-393(A)(1)	Transfer option for Critical Water Quality Zone lacks important details & only option is to dedicate land to City.	Add option to allow land to be transferred to "another entity" (e.g., County or a land trust approved by the Watershed Protection Department). Clarify other details.	Clarify. Extend more options for transfers, which confer environmental & community benefits.	None.
119. Transfers: Floodplains, Environmentally Sensitive Areas & Land Dedication §25-8-393 (A)(2) [New]	Current code offers transfer credits to uplands if Critical Water Quality Zone (CWQZ) buffer areas are dedicated to the City fee simple; no option exists for floodplain or other environmentally sensitive areas outside the CWQZ.	Offer transfers of impervious cover for land dedicated to City in (a) 100-year floodplains or (b) environ-mentally sensitive upland areas (e.g., remnant prairies, woodlands), determined by environmental resource inventory, that are left in a natural state, accepted by the City or other entity, and not included in IC calculations elsewhere.	Protect key areas otherwise degraded by development pressure; incentivizes their protection and potential public use. Could serve a similar role to the Conservation Subdivision option used by Travis County.	Must ensure maintenance requirements for additional land can be met.
120. Transfers: Parkland Dedication §25-8-393(A)(3)	Parkland dedication option needs clarification.	Clarify transfers to be credited for Parkland Dedication must be dedicated fee simple.	Clarify.	None.

## Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
121. Transfers: WQ Transition Zone Deleted §25-8-393(A)(2-4) [Deleted]	Transfer sections for Water Quality Transition Zone buffers are no longer applicable; these buffers eliminated for Suburban Watersheds (see 25-8-93).	Delete these sections.	Consistency.	None.
122. Transfers: CEF Buffer Transfers §25-8-393(A)(5) [Deleted]	Current code allows increased impervious cover in the Uplands if land within Critical Environmental Features (CEF) buffers is left in an undisturbed state; but this is already the expectation.	Delete this section.	Consistency. Expectation is for all CEF buffers to remain in natural condition.	None.
123. Transfers: Wastewater Disposal §25-8-393(A)(6) [Deleted]	Current code allows increased impervious cover in the Uplands if land within wastewater irrigation areas is left in an undisturbed state; but does not provide public benefit.	Delete this section.	Seeking to emphasize transfer system to be for public and environmental benefit.	None.
124. Transfer of Development Intensity: Transfer Proximity & Timing §25-8-393(B)	Current code requires that transferred development intensity not be applied to tracts more than one (1) mile from the "sending" site and must be platted concurrently; these limitations may discourage some potential transfers.	Allow the transfer for development intensity within the same watershed classification; allow transfers on site plans (not just plats). Include processing & restrictive covenant requirements.	Encourage more use of transfers of development intensity to realize the benefits to the environment & community.	Some areas could see a much larger impact than others; could address by ensuring that the "receiving areas" are within Comp. Plan-approved centers & corridors. Requires additional administrative burden to track over time.
<b>ARTICLE 10. WATER SUPPLY SUBURBAN WATERSHED REQUIREMENTS</b>				
125. Critical Water Quality Zone (CWQZ) §25-8-422 [Deleted]	CWQZ development prohibition moved to §25-8-261 Critical Water Quality Zone Development. See item 76 above.	Consolidate all references to prohibition of development in the Critical Water Quality Zone to 25-8-261.	Clarity.	None. No change in regulations.

## Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
126. Water Quality Transition Zone (WQTZ) \$25-8-422(A)&(C)	Current code prohibits the placement of WQ controls in WQTZs in Water Supply Suburban watersheds, despite the allowance of development in these areas.	Allow minor drainage facilities and water quality controls in the Water Quality Transition Zone over the recharge zone (language aligned with Barton Springs Zone). Allow water quality controls in the Water Quality Transitions Zone outside on the recharge zone.	Ensures that permitted development can receive on-site water quality treatment using structural controls.	None.
127. Uplands Zone: Mixed Use Impervious Cover \$25-8-423(C)	Need to add mixed use to list of impervious cover limits.	Add mixed use impervious cover limit reference.	Clarify.	None.
128. Transfers: Impervious Cover Limits Apply \$25-8-424(A)	Same as equivalent change for \$25-8-393 (A), Item 117.	Add text to clarify that Uplands impervious cover is subject to IC limits. (Note that IC levels are higher with transfers than without.)	Clarify.	None.
129. Transfers: Critical Water Quality Zone \$25-8-424 (A)(1) & [Deleted] (2)	Same as equivalent change for \$25-8-393 (A)(1), Item 118, except can also consolidate section on transfers for Water Quality Transition Zones.	See Item 118 above; move Water Quality Transition Zone option to (A)(1) and delete (A)(2).	See above. Plus simplify.	None.
130. Transfers: Parkland Dedication \$25-8-454(A)(2)	Same as equivalent change for \$25-8-393(A)(3), Item 120.	Clarify transfers to be credited for Parkland Dedication must be dedicated fee simple.	Clarify.	None.
131. Transfers: Golf Courses \$25-8-424(A)(3) [Deleted]	Current code allows increased impervious cover in the Uplands if golf courses in the water quality transition zone use native plants and minimize fertilizer use; but does not provide public benefit.	Delete this section.	Seeking to emphasize transfer system to be for public and environmental benefit.	None.

5/27/2013

**DRAFT Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes DRAFT**

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
132. Transfers: WQTZ Wastewater Disposal \$25-8-424 (A)(4)&(6) [Deleted]	Same as equivalent change for \$25-8-393(A)(6), Item 123.	Delete these sections.	Seeking to emphasize transfer system to be for public and environmental benefit.	None.
133. Transfers: CEF Buffer Transfers \$25-8-424(A)(5) [Deleted]	Same as equivalent change for \$25-8-393(A)(5), Item 122.	Delete this section.	Consistency. Expectation is for all CEF buffers to remain in natural condition.	None.
134. Transfer of Development Intensity: Transfer Proximity & Timing \$25-8-424(B)	Same as equivalent change for \$25-8-393 (B), Item 124.	Allow the transfer for development intensity within the same watershed classification; allow transfers on site plans (not just plats). Include processing & restrictive covenant requirements.	Encourage more use of transfers of development intensity to realize the benefits to the environment & community.	Some areas could see a much larger impact than others; could address by ensuring that the "receiving areas" are within Comp. Plan-approved centers & corridors. Requires additional administrative burden to track over time.
<b>ARTICLE 11. WATER SUPPLY RURAL WATERSHED REQUIREMENTS</b>				
135. Critical Water Quality Zone \$25-8-452 [Deleted]	CWQZ development prohibition moved to \$25-8-261 Critical Water Quality Zone Development. See item 76 above.	Consolidate all references to prohibition of development in the Critical Water Quality Zone to 25-8-261.	Clarity.	None. No change in regulations.
136. Water Quality Transition Zone (WQTZ) \$25-8-452(A)(2) & (B)(3)	Current code prohibits the placement of water quality controls in WQTZs in Water Supply Rural watersheds, despite the allowance of development in these areas.	Allow minor drainage facilities and water quality controls in WQTZ (language aligned with Barton Springs Zone) in Water Supply Rural watersheds.	Ensures that permitted development in WQTZs can receive on-site water quality treatment using structural controls.	None.
137. Water Quality Transition Zone (WQTZ) \$25-8-452(B)(4)	Code unnecessarily permits parks and open space in the WQTZ; is already permitted in \$25-8-451(B)(1).	Delete parks & open space reference (is covered by Article 7, Division 1 reference and therefore redundant).	Clarity.	None.

8/5/13

Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
138. Water Quality Transition Zone (WQTZ) \$25-8-452(C)	Current code requires that a Water Supply Rural lot that lies within a CWQZ must also include at least 2 acres in a WQTZ, leads to unnecessary variance requests.	Expand to two acre min. in WQTZ or upland area.	Eliminate unproductive variance requests.	None.
139. Uplands Zone: Cluster Housing \$25-8-453(C)(2) & (D)(2)	Much of the original text describing the use and requirements of cluster housing was inadvertently deleted from the code, leaving use of this provision unclear.	Add text from commercial section to cluster housing section. Also clarify that the 40% required natural buffer shall receive runoff from developed areas.	Clarify requirements to use cluster housing provisions for WS Rural watershed development; current code & criteria do not provide guidance; ensure treatment of runoff.	None.
140. Uplands Zone: 40 Percent Buffer \$25-8-453(C)(2)	Not clear that the 40 percent buffer must be located in the uplands and that the overland drainage received must come from the developed areas of the site.	Clarify that the 40 percent buffer is located within the uplands and must receive overland drainage from developed areas (e.g., impervious cover) of the site. Moved prohibition on wastewater disposal areas in the buffer from §25-8-361 (see 105 above).	Clarify.	None.
141. Uplands Zone: Mixed Use Impervious Cover \$25-8-453(D)	Need to add mixed use to list of impervious cover limits.	Add mixed use impervious cover limit reference.	Clarify.	None.
142. Transfers: Impervious Cover Limits Apply \$25-8-454(A)	Same as equivalent change for §25-8-393 (A), Item 117.	Add text to clarify that Uplands impervious cover is subject to IC limits. (Note that IC levels are higher with transfers than without.)	Clarify.	None.
143. Transfers: Critical Water Quality Zone \$25-8-454 (A)(1) & [Deleted] (2)	Same as equivalent change for §25-8-393 (A)(1), Item 118, except can also consolidate section on transfers for Water Quality Transition Zones.	See Item 118 above; move Water Quality Transition Zone option to (A)(1) and delete (A)(2).	See above. Plus simplify.	None.



6/5/19

DRAFT

Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes

DRAFT

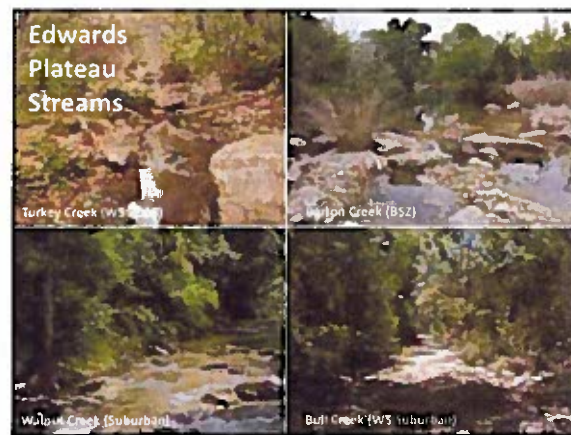
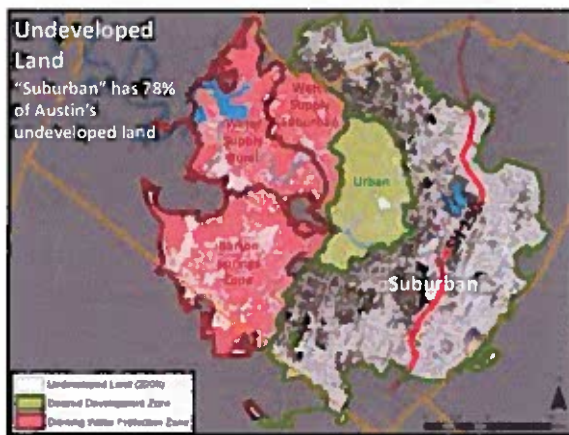
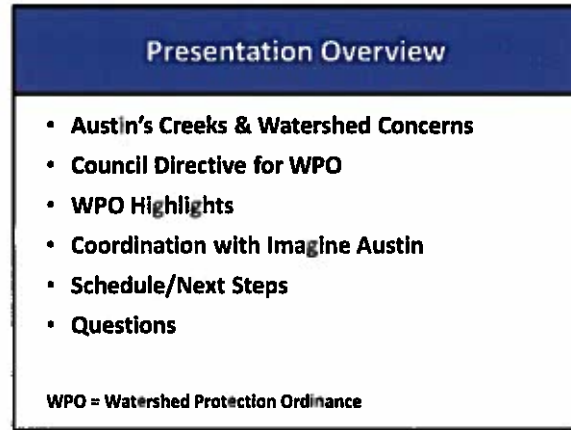
Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
144. Transfers: Parkland Dedication §25-8-454(A)(2)	Same as equivalent change for §25-8-393(A)(3), Item 120.	Clarify transfers to be credited for Parkland Dedication must be dedicated fee simple.	Clarity.	None.
145. Transfers: Golf Courses §25-8-454(A)(3) [Deleted]	Current code allows increased impervious cover in the Uplands if golf courses in the water quality transition zone use native plants and minimize fertilizer use; but does not provide public benefit.	Delete this section.	Seeking to emphasize transfer system to be for public and environmental benefit.	None.
146. Transfers: WQITZ Wastewater Disposal §25-8-454 (A)(4)&(6) [Deleted]	Same as equivalent change for §25-8-393(A)(6), Item 123.	Delete these sections.	Seeking to emphasize transfer system to be for public and environmental benefit.	None.
147. Transfers: CEF Buffer Transfers §25-8-454(A)(5) [Deleted]	Same as equivalent change for §25-8-393(A)(5), Item 122.	Delete this section.	Consistency. Expectation is for all CEF buffers to remain in natural condition.	None.
148. Transfer of Development Intensity: Transfer Proximity & Timing §25-8-454(B)	Same as equivalent change for §25-8-393 (B), Item 124.	Allow the transfer for development intensity within the same watershed classification; allow transfers on site plans (not just plats). Include processing & restrictive covenant requirements.	Encourage more use of transfers of development intensity to realize the benefits to the environment & community.	Some areas could see a much larger impact than others; could address by ensuring that the "receiving areas" are within Comp. Plan-approved centers & corridors. Requires additional administrative burden to track over time.
<b>ARTICLE 12. BARTON SPRINGS ZONE WATERSHED REQUIREMENTS</b>				
149. Critical Water Quality Zone §25-8-482 [Deleted]	CWQZ development prohibition moved to §25-8-261 Critical Water Quality Zone Development. See item 76 above.	Consolidate all references to prohibition of development in the Critical Water Quality Zone to 25-8-261.	Clarity.	None. No change in regulations.

5/58

D R A F T      Watershed Protection Ordinance: Summary and Discussion of Proposed Code Changes      D R A F T

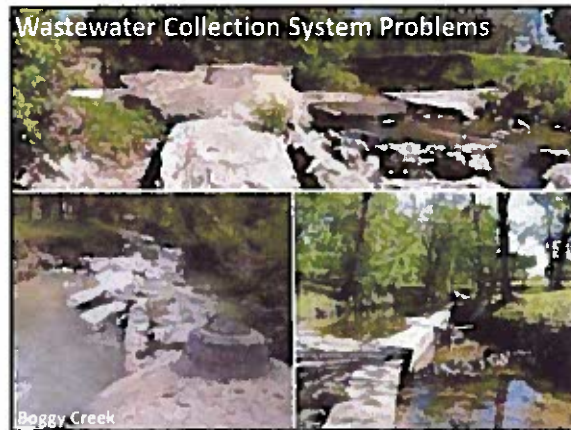
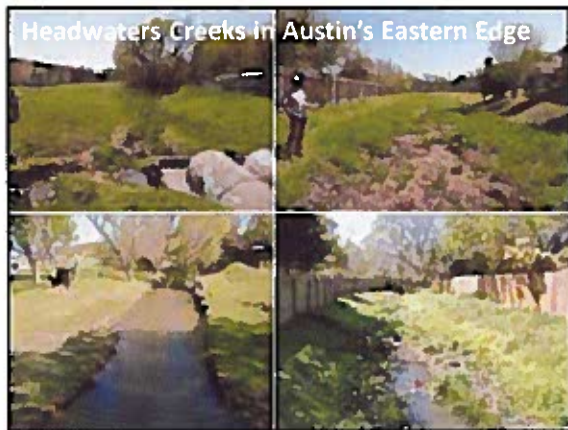
Description	Current Status/Concern	Proposed Improvement	Anticipated Impacts	
			Advantages	Disadvantages
150. <i>Water Quality Transition Zone (WQTZ)</i> §25-8-482	Language for water quality transition zone requirements differ slightly for Water Supply Suburban, Water Supply Rural, and Barton Springs Zone.	Align language as much as possible across the three sections.	Consistency.	None.
151. <i>Water Quality Transition Zone (WQTZ)</i> §25-8-482(B)(5) <i>[Deleted]</i>	Code unnecessarily distinguishes between vegetative filter strips and water quality controls.	Delete vegetative filter strip reference (is covered by "water quality control" and therefore redundant). Align text with other water supply sections for WQTZ.	Clarity.	None.
<b>ARTICLE 13. SAVE OUR SPRINGS INITIATIVE</b>				
152. <i>SOS Amendment</i> §25-8-512	Original SOS Ordinance was prohibited from repeal or amendment within two years of its effective date on August 10, 1992. This two year period has passed and is no longer relevant to code compliance.	Delete reference to date.	Clarity. Does not impact implementation of ordinance.	None.
153. <i>SOS List of Pollutants</i> §25-8-514	Current list of pollutants includes fecal coliform and fecal streptococci, both of which are no longer the bacteria constituents monitored (should be E. coli) & BOD, which is not a useful measure of stormwater quality.	Delete fecal coliform and fecal streptococci and replace with E. coli. Delete biochemical oxygen demand (BOD).	Reflect current science.	None.
154. <i>Application to Existing Tracts: Small Roadway Project Exemption</i> § 25-8-516 (D)	SOS impervious cover limits apply to all tracts. This creates feasibility issues for small roadway projects due to the unusual nature of road "tracts" & preventing constructive projects from being built.	Exempt roadway projects with less than 5,000 square feet of impervious cover. Is same threshold proposed for water quality controls in §25-8-211. (See Item 65 above.)	Significant increase in feasibility for small roadway projects with positive environmental benefits (e.g., bike lanes & intersection improvements to relieve congestion and idling).	Small impact on water quality (though will still be subject to construction-phase erosion & sedimentation controls).

CS  
BI





CS/52



### 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)

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

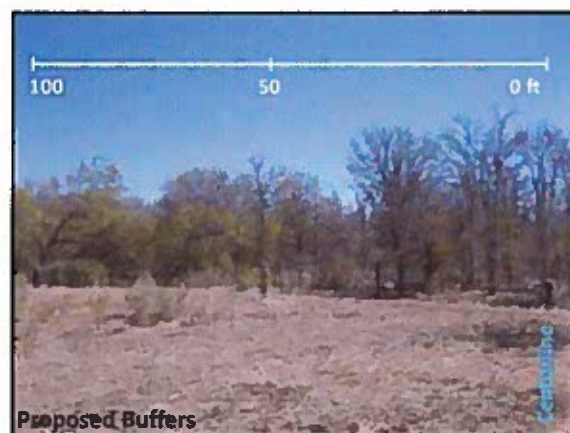
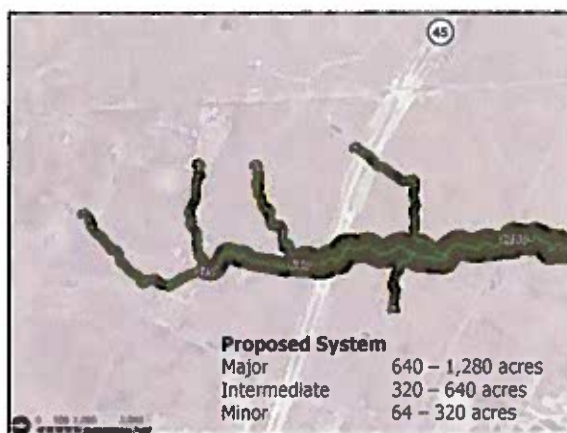
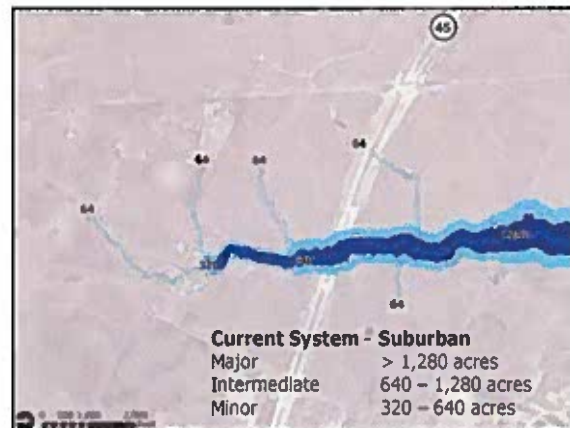
Creek Protection



15/53

### Creek Protection

- Extend minor "headwaters" stream buffers to 64 acres of drainage citywide
- Standardize drainage area thresholds citywide:
  - 64 acres for minor ("headwaters") waterways
  - 320 acres for intermediate waterways
  - 640 acres for major waterways
- Simplify buffer widths for Suburban watersheds:
  - 100 ft. for minor ("headwaters") waterways
  - 200 ft. for intermediate waterways
  - 300 ft. for major waterways



### Creek Protection

- Clarify that irrevocably altered roadside ditches do not create a Critical Water Quality Zone (CWQZ)
- To offset impacts in Suburban Watersheds:
  - Eliminate Water Quality Transition Zone (WQTZ)
  - Use Gross Site Area basis for impervious cover (instead of net site area)
  - Allow "buffer averaging" to reduce the width of buffers by up to one-half if the overall amount of area protected remains the same

### Creek Protection

- Revise **allowed uses** in the CWQZ under certain conditions (e.g., outside of EHZ):
  - Flexible roadway crossings for centers & corridors
  - Hard-surfaced trails
  - Sustainable urban agriculture / community gardens
  - Parallel utility lines (e.g., wastewater infrastructure)
  - Green water quality controls
- Revise **prohibited uses** in the CWQZ:
  - Small single-family lots (< 5,750 square feet)
  - Managed portion of golf courses

6/54

### Creek Protection

- 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
- Add **Critical Environmental Feature (CEF)** protections
  - Expand definition to include faults, fractures & seeps
  - Require perimeter fencing & natural state for CEF buffers

### 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."



### Floodplain Protection

- 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, allow floodplain modification **outside of the CWQZ** if a functional assessment determines the area to be in **poor or fair condition**

### Floodplain Protection

- Require **restoration of floodplain health on-site**
- Provide off-site **mitigation options** where on-site restoration is infeasible
  - pay into Riparian Mitigation Fund
  - dedicate/restrict land off-site
- Ordinance will be accompanied by **Floodplain Modification Criteria as an emergency rule**

### 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."

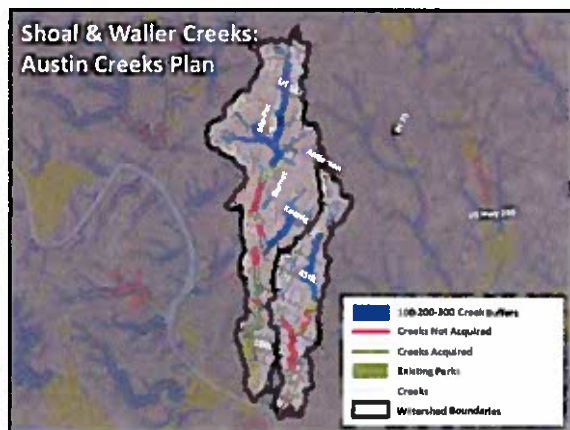


### Development Patterns & Greenways

- Improve and expand **PUD Tier 2 zoning elements** for "superior" environmental protection (10 → 23 options)
- Improve the existing **transfers of development rights** sections to allow for increased flexibility and protection of additional environmental resources (e.g., floodplains)
- Establish limits for **diversions of stormwater** between watersheds to protect natural drainage patterns
- Allow **community gardens** and hard-surface **multi-use (hard-surfaced) trails** in stream buffers



CS/SS



## Development Patterns & Greenways

- **Expand the Redevelopment Exception**
  - 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 small roadway projects (less than 5,000 square feet) without water quality controls or impervious cover limits for intersection improvements, bike lanes, etc.**

## Improved Stormwater Controls

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



## Improved Stormwater Controls

- **Require water quality controls** for development 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 be accessible** for maintenance and inspection
- **Require maintenance plan and annual reports** by registered engineer for all **subsurface controls**

## Improved Stormwater Controls

- **Items to be considered in Phase 2 of the Watershed Protection Ordinance include:**
  - Limiting stormwater runoff volume (e.g., through requirement for infiltration or re-use on-site)
  - Rain gardens for single-family residential subdivisions
  - Alternatives for SOS compliance
  - Rainwater harvesting options
  - Porous pavement for non-pedestrian surfaces
  - Flood detention credit for water quality controls
  - Other related items as identified by stakeholders
- **Stakeholders discussions will continue in Fall 2013**

## 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."



CS/56

### Mitigation Options

- New options for mitigation of **floodplain modifications**
- New options for mitigation of **redevelopment** in Water Supply watersheds
- May evaluate additional options for **centers and corridors** as part of the Imagine Austin Land Development Code revision process

### Simplify Regulations

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

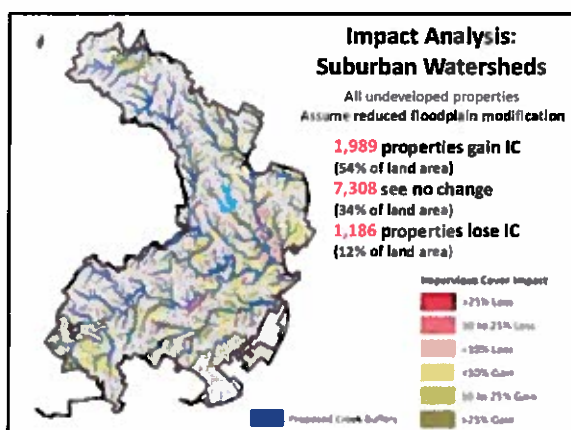
PROPERTY	DESIRABLE DEVELOPMENT ZONE			PROTECTING WATER QUALITY ZONE		
	Urban	Suburban City Limits	Suburban R. Edward J. Eitz	Water Supply Suburban	Water Supply Rural	Surface Springs Zone
<b>Watershed Classification</b>						
Water	64 ac.	120 - 640 ac.	120 - 640 ac.	120 - 220 ac.	64 - 120 ac.	64/120 - 120 ac.
Intermediate	64 ac.	640 - 1,280 ac.	640 - 1,280 ac.	320 - 640 ac.	320 - 640 ac.	120 - 640 ac.
Major	64 ac.	over 1,280 ac.	over 1,280 ac.	over 640 ac.	over 640 ac.	over 640 ac.
<b>Critical Water Quality Zone</b>						
Water	50 - 100 ft.	50 - 100 ft.	50 - 100 ft.	50 - 100 ft.	50 - 100 ft.	50 - 100 ft.
Intermediate	50 - 100 ft.	100 - 200 ft.	100 - 200 ft.	100 - 200 ft.	100 - 200 ft.	100 - 200 ft.
Major	50 - 100 ft.	200 - 400 ft.	200 - 400 ft.	200 - 400 ft.	200 - 400 ft.	200 - 400 ft.
<b>Water Quality Transition Zone</b>						
Water	100 ft.	100 ft.	100 ft.	100 ft.	100 ft.	100 ft.
Intermediate	100 ft.	200 ft.	200 ft.	200 ft.	200 ft.	200 ft.
Major	100 ft.	200 ft.	200 ft.	200 ft.	200 ft.	200 ft.

### Simplify Regulations

- Provisions were included to **minimize impacts** on the ability to develop, especially in Suburban watersheds
  - e.g., eliminating the WQTZ, gross site area, buffer averaging
- Eliminate the **Boundary Street Deduction**
- Numerous **clarifications & corrections** of existing code
- Will evaluate **aligning stream crossing** provisions with new **connectivity requirements** as part of Imagine Austin Land Development Code revision process

### 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."**

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



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### 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

Subdivision Ordinance  
Transportation Criteria Manual  
Imagine Austin Code Overhaul

Separate, Coordinated Initiatives

### 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
  - Five 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	June 18 & July 16
Environmental Board	June 19 & July 17
Planning Commission	August 13
City Council	October 3
Travis County Commissioner’s Court (Title 30)	Fall/Winter

### Contact/Additional Information

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

15/98

ORDINANCE NO. \_\_\_\_\_

AN ORDINANCE REPEALING AND REPLACING CITY CODE CHAPTERS 25-7 AND 30-4 RELATING TO DRAINAGE; AMENDING SECTIONS OF CITY CODE CHAPTERS 25-8, SUBCHAPTER A AND 30-5, SUBCHAPTER A RELATING TO WATER QUALITY; AMENDING VARIOUS SECTIONS OF CITY CODE TITLE 25 AND TITLE 30 RELATING TO ENVIRONMENTAL PROTECTION; ESTABLISHING A WATER SUPPLY MITIGATION FUND; AND ESTABLISHING A RIPARIAN ZONE MITIGATION FUND.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF AUSTIN:

**PART 1.** City Code Chapter 25-7 (Drainage) is repealed and replaced with a new Chapter 25-7 to read as in the attached and incorporated **EXHIBIT A**.

**PART 2.** City Code Section 25-8-1 (*Definitions*) is amended to read:  
**§ 25-8-1 DEFINITIONS.**

In this subchapter:

(1) BARTON SPRINGS means the springs that comprise the Barton Springs complex associated with Barton Springs Pool, and includes Upper Barton, Old Mill, Eliza, and Parthenia springs

(2) BLUFF means [is limited to a bluff with] a vertical change in elevation of more than 40 feet and an average gradient greater than 400 percent.

(3) ~~(2)~~ CANYON RIMROCK means [is limited to a rimrock with] a rock substrate that:

(a) has a gradient that exceeds 60 percent for a vertical distance of at least four feet; and

(b) is exposed for at least 50 feet horizontally along the rim of the canyon.

(4) ~~(3)~~ COMMERCIAL DEVELOPMENT means all development other than open space and residential development.

(5) CLUSTER HOUSING means a residential housing development that maximizes common open space by grouping housing units to minimize individual yards and has a maximum lot area of fifteen thousand (15,000) square feet for detached residential development.

~~[(4) CREST OF BLUFF is limited to a crest of a bluff that is described in Subsection (1). A crest coincides with a line along the top of a bluff beyond which the average slope has a gradient of not more than 50 percent for a distance of at least 40 feet.]~~

(6) ~~(5)~~ CRITICAL ENVIRONMENTAL FEATURES means [are] features that are of critical importance to the protection of environmental resources, and includes [include] bluffs, canyon rimrocks, caves, faults and fractures, seeps, sinkholes, springs, and wetlands.

6/9/13

(7) DIRECTOR, when used without a qualifier, means the director of the Planning and Development Review Department, or the director's designee.

(8) EROSION HAZARD ZONE means an area where future stream channel erosion is predicted to result in damage to or loss of property, buildings, infrastructure, utilities, or other valued resources.

~~[(6) IMPERVIOUS COVER means roads, parking areas, buildings, swimming pools, rooftop landscapes and other impermeable construction covering the natural land surface.]~~

(9) ~~[(7)]~~ FAULTS AND FRACTURES means ~~[is limited to]~~ significant fissures or cracks in rock that may permit infiltration of surface water to underground cavities or channels.

(10) IMPERVIOUS COVER means the total area of any surface that prevents the infiltration of water into the ground, such as roads, parking areas, concrete, and buildings.

(11) MULTI-USE TRAIL means a facility designated for the ~~[shared]~~ use of pedestrians, bicycles, and/or other non-motorized users and associated bridges.

(12) OPEN SPACE means a public or private park, multi-use trail, golf cart path, the portions of a golf course left in a natural state, and an area intended for outdoor activities which does not significantly alter the existing natural vegetation, drainage patterns, or increase erosion. Open Space does not include parking lots.

~~(13) [(8)]~~ OWNER includes a lessee.

(14) ~~[(9)]~~ POINT RECHARGE FEATURE means a cave, sinkhole, fault, joint, or other natural feature that lies over the Edwards Aquifer recharge zone and that may transmit a significant amount of surface water into the subsurface strata.

~~(15) [(10)]~~ WATER QUALITY CONTROL means a structure, system, or feature that provides water quality benefits by treating stormwater run-off.

~~(16) [(11)]~~ WETLAND means a transitional land between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water, and conforms to the Army Corps of Engineers' definition.

**PART 3.** City Code Section 25-8-2 (*Description of Regulated Areas*) is amended to read:

**§ 25-8-2 DESCRIPTIONS OF REGULATED AREAS.**

(A) This section describes the watersheds, aquifers, and water zones that are regulated by this subchapter. A map of these areas is maintained by the Watershed Protection Department and available for inspection at the offices of the Planning ~~[Watershed Protection]~~ and Development Review Department.

(B) ~~[Except as provided in Subsection (C), the]~~ The director of the Watershed Protection Department shall determine the boundaries of the areas described in Subsection (D).

6/8

(C) ~~[The council shall determine the boundaries of the Edwards Aquifer recharge zone after receiving a recommendation from the director.]~~ For property within 1500 feet of a boundary, the director of the Watershed Protection Department may require that an applicant provide a certified report from a geologist or hydrologist verifying the boundary location.

(D) In this subchapter:

(1) BARTON SPRINGS ZONE means the Barton Creek watershed and all watersheds that contribute recharge to Barton Springs, including those portions of the [Barton, ]Williamson, Slaughter, Onion, Bear and Little Bear Creek watersheds located in the Edwards Aquifer recharge or contributing zones.

(2) BARTON CREEK WATERSHED means the land area that drains to Barton Creek, including Little Barton Creek watershed.

(3) EDWARDS AQUIFER is the water-bearing substrata that~~[also known as the Edwards and Associated Limestones Aquifer and]~~ includes the stratigraphic rock units known as the Edwards Group~~[Formation]~~ and Georgetown Formation.

(4) EDWARDS AQUIFER CONTRIBUTING ZONE means all land generally to the west and upstream of the Edwards Aquifer recharge zone that provides drainage into the Edwards Aquifer recharge zone.

(5) EDWARDS AQUIFER RECHARGE ZONE means all land over the Edwards Aquifer that recharges the aquifer, as determined by the surface exposure of the geologic units comprising the Edwards Aquifer, including the areas overlain with quaternary terrace deposits.

(6) SOUTH EDWARDS AQUIFER RECHARGE ZONE means the portion of the Edwards Aquifer recharge zone that is located south of the Colorado River and north of the Blanco River.

(7) SUBURBAN WATERSHEDS include all watersheds not otherwise classified as urban, water supply suburban, or water supply rural watersheds, and include:

(a) the Brushy, Buttercup, Carson, Cedar, Cottonmouth, Country Club East, Country Club West, Decker, ~~[Dry Creek NE,]~~ Dry Creek East, Elm Creek, Elm Creek South, Gilleland, Harris Branch, Lake, Lockwood, Maha, Marble, North Fork Dry, Plum ~~[Creek]~~, Rattan, Rinard, South Boggy, South Fork Dry, South Brushy, Walnut, and Wilbarger creek watersheds;

(b) the Colorado River watershed downstream of U.S. 183; and

(c) those portions of the Onion, Bear, Little Bear, Slaughter, and Williamson creek watersheds not located in the Edwards Aquifer recharge or contributing zones.

(8) URBAN WATERSHEDS include:

(a) the Blunn, Buttermilk, ~~[East]~~ Boggy, East Bouldin, Fort, Harper Branch, Johnson, Little Walnut, Shoal, Tannehill, Waller, and West Bouldin creek watersheds;

LS/6

(b) the north side of the Colorado River watershed from Johnson Creek to U.S. 183; and

(c) the south side of the Colorado River watershed from Barton Creek to U.S. 183.

(9) WATER SUPPLY RURAL WATERSHEDS include:

(a) the Lake Travis watershed;

(b) ~~and~~ the Lake Austin watershed, excluding the Bull Creek watershed and the area to the south of Bull Creek and the east of Lake Austin[-]; and

(c) the Bear West, Bee, Bohl's Hollow, Cedar Hollow, Coldwater, Commons Ford, Connors, Cuernavaca, Harrison Hollow, Hog Pen, Honey, Little Bee, Panther Hollow, Running Deer, St. Stephens, Steiner, and Turkey Creek watersheds.

(10) WATER SUPPLY SUBURBAN WATERSHEDS include:

(a) the Bull, Eanes, Dry Creek North, Huck's Slough, Taylor Slough North, Taylor Slough South, and West Bull creek watersheds;

(b) the Lady Bird ~~[Town]~~ Lake watershed on the south side of Lady Bird ~~[Town]~~ Lake from Barton Creek to Tom Miller Dam;

(c) the Lady Bird ~~[Town]~~ Lake watershed on the north side of Lady Bird ~~[Town]~~ Lake from Johnson Creek to Tom Miller Dam; and

(d) the ~~[Town]~~ Lake Austin watershed on the east side of Lake Austin from Tom Miller Dam to Bull Creek.

**PART 4.** City Code Section 25-8-23 (*Urban Watershed Exemptions*) is deleted in its entirety; Section 25-8-24 (*Condemnation and Accessibility Exceptions*) is renumbered as 25-8-23; and Section 25-8-25 (*Special Exceptions*) is renumbered as 25-8-24.

**PART 5.** City Code Section 25-8-23 (*Condemnation and Accessibility Exceptions*), Subsection (A) is amended to read:

(A) This subsection applies to property that has existing development or that is included in an approved site plan if the development on the property is reconfigured as a result of right-of-way condemnation.

(1) The accountable official may approve the replacement of development that existed in the condemned area of the property onto the remainder of the property.

(2) For development that may be replaced under Subsection (A) (1), the director of the Watershed Protection Department may vary the requirements of this subchapter for development in the water quality transition zone and the critical water quality zone and the limitations of this subchapter on impervious cover after making a determination that the replacement development will not increase the pollutant loading.

**PART 6.** City Code Section 25-8-24 (*Special Exceptions*) is amended to read:

**§ 25-8-24 [25] SPECIAL EXCEPTIONS.**

CS  
62

Except as prohibited by Article 13[12] (*Save Our Springs Initiative*), a special exception from the requirements of this subchapter may be granted in accordance with Chapter 25-1 (*General Requirements and Procedures*).

**PART 7.** City Code Section 25-8-26 (*Redevelopment Exception*) is amended to read:  
**§ 25-8-~~25~~[26] REDEVELOPMENT EXCEPTION IN URBAN AND SUBURBAN WATERSHEDS.**

(A) This section applies to property located in an urban or suburban watershed that has existing development if:

- (1) no unpermitted development occurred on the site after January 1, 1992, and
- (2) the property owner files a site plan application and an election for the property to be governed by this section.

(B) The requirements of this subchapter do not apply to the redevelopment of the property if the redevelopment:

- (1) does not increase the existing amount of impervious cover;
- (2) provides the level of water quality treatment prescribed by current regulations for the redeveloped area or an equivalent area on the site;
- (3) does not generate more than 2,000 vehicle trips a day above the estimated traffic level based on the most recent authorized use on the property [on April 17, 2000];
- (4) is consistent with the neighborhood plan adopted by council, if any; ~~[and]~~
- (5) does not increase non-compliance, if any, with Article 7, Division 1 (*Critical Water Quality Zone Restrictions*), Section 25-8-281 (*Critical Environmental Features*), or Section 25-8-282 (*Wetland Protection*); and
- (6) does not place redevelopment within the Erosion Hazard Zone, unless protective works are provided as prescribed in the Drainage Criteria Manual.  
~~[for property in the drinking water protection zone, combined with all other redevelopment of the site since April 17, 2000 does not affect more than 25 percent of the site's impervious cover.]~~

(C) The redevelopment must comply with construction phase environmental requirements in effect at the time of construction, including Chapter 25-8, Article 5 (*Erosion and Sedimentation Control; Overland Flow*).

~~[To the extent of conflict with Article 13[12] (*Save Our Springs Initiative*), this section controls.]~~

**PART 8.** City Code Section 25-8-27 (*Redevelopment Exception in the Barton Springs Zone*) is amended to read:

**§ 25-8-~~26~~[27] REDEVELOPMENT EXCEPTION IN THE BARTON SPRINGS ZONE.**

6/13

(A) This section applies to property located in the Barton Springs Zone that has existing commercial development or existing residential development with greater than two dwelling units per lot ~~[and is located in the Barton Springs Zone]~~ if:

(1) no unpermitted development occurred on the site after January 1, 1992, and  
 (2) the property owner files a site plan application and an election for the property to be governed by this section.

(B) For property governed by this section, this section supersedes Article 13~~[12]~~ (*Save Our Springs Initiative*), to the extent of conflict.

~~[(C)] [Development may comply with this section instead of complying with Section 25-8-26 (*Redevelopment Exception*)]~~

(C)~~[(D)]~~ ]In this section:

(1) SEDIMENTATION/FILTRATION POND means water quality controls that comply with Section 25-8-213 (*Water Quality Control Standards*) or are approved under Section 25-8-151 (*Innovative Management Practices*); and

(2) SOS POND means water quality controls that comply with all requirements of Section 25-8-213 (*Water Quality Control Standards*) and the pollutant removal requirements of Section 25-8-514(A) (*Pollution Prevention Required*).

(D) ~~[(E)]~~ The requirements of this subchapter do not apply to the subdivision of property if at the time of redevelopment under this section subdivision and site plan applications are filed concurrently.

(E) ~~[(F)]~~ The requirements of this subchapter do not apply to the redevelopment of property if the redevelopment meets all of the following conditions:

(1) The redevelopment may not increase the existing amount of impervious cover on the site.

(2) The redevelopment may not increase non-compliance, if any, with Article 7, Division 1 (*Critical Water Quality Zone Restrictions*)~~[Section 25-8-261 (*Critical Water Quality Zone Development*)]~~, Section 25-8-281 (*Critical Environmental Features*), Section 25-8-282 (*Wetland Protection*), ~~[Section 25-8-482 (*Critical Water Quality Zone*)]~~ or Section 25-8-482 ~~[25-8-483]~~ (*Water Quality Transition Zone*).

(3) The redevelopment must comply with construction phase environmental requirements in effect at the time of construction, including Chapter 25-8, Article 5 (*Erosion and Sedimentation Control; Overland Flow*) and Section 25-8-234 (*Fiscal Security in the Barton Springs Zone*).

(4) The water quality controls for ~~[on]~~ the redeveloped areas or an equivalent area on the [redevelopment] site must provide a level of water quality treatment that is equal to or greater than that which was previously provided.

(5) For a commercial or multifamily redevelopment, the owner or operator must obtain a permit under Section 25-8-233 (*Barton Springs Zone Operating Permit*) for both sedimentation/filtration ponds and SOS ponds.

(6) For a site with more than 40 percent net site area impervious cover, the redevelopment must have:



6/64

(a) sedimentation/filtration ponds for the redeveloped area or an equivalent area on the [entire] site; or

(b) ~~[if approved by the director of the Watershed Protection and Development Review Department,]~~ SOS ponds for a portion of the site, and sedimentation/filtration ponds for the remainder of the redeveloped area[site] or an equivalent area on the site, as prescribed by the Environmental Criteria Manual.

(7) For a site with 40 percent or less net site area impervious cover, the redevelopment must have SOS ponds for the redeveloped area or an equivalent area on the [entire] site.

(8) The property owner must mitigate the effects of the redevelopment, if required by and in accordance with Subsection (H)[(H)].

(9) Redevelopment may not be located within the Erosion Hazard Zone, unless protective works are provided as prescribed in the Drainage Criteria Manual.

~~(F) [(G)]~~ City Council approval of a redevelopment in accordance with Subsection (G) [(H)] is required if the redevelopment:

- (1) includes more than 25 additional dwelling units;
- (2) is located outside the City's zoning jurisdiction;
- (3) is proposed on property with an existing industrial ~~[or civic]~~ use;
- (4) is inconsistent with a neighborhood plan; or
- (5) will generate more than 2,000 vehicle trips a day above the estimated traffic level based on the most recent authorized use on the property.

~~(G) [(H)]~~ City Council shall consider the following factors in determining whether to approve a proposed redevelopment:

- (1) benefits of the redevelopment to the community;
- (2) whether the proposed mitigation or manner of development offsets the potential environmental impact of the redevelopment;
- (3) the effects of offsite infrastructure requirements of the redevelopment; and
- (4) compatibility with the city's long-range planning goals.

~~(H) [(H)]~~ Redevelopment of property under this section requires the purchase or restriction of mitigation land if the site has a sedimentation/filtration pond.

(1) The combined gross site area impervious cover of the mitigation land and the portion of the redevelopment site treated by sedimentation/filtration ponds may not exceed 20 percent.

(2) The mitigation requirement may be satisfied by:

(a) paying into the Barton Springs Zone Mitigation Fund a non- refundable amount established by ordinance;

(b) transferring to the City in accordance with Paragraph (3) mitigation land approved by the director of the Watershed Protection ~~[and Development Review]~~ Department within a watershed that contributes recharge to Barton Springs, either inside or outside the City's jurisdiction;



CS  
6/5

(c) placing restrictions in accordance with Paragraph (3) on mitigation land approved by the director of the Watershed Protection ~~[and Development Review]~~ Department within a watershed that contributes recharge to Barton Springs, either inside or outside the City's jurisdiction; or

(d) a combination of the mitigation methods described in Subparagraphs (a) - (c), if approved by the director of the Watershed Protection ~~[and Development Review]~~ Department.

(3) A person redeveloping under this section shall pay all costs of restricting the mitigation land or transferring the mitigation land to the City, including the costs of:

(a) an environmental site assessment without any recommendations for further clean-up, certified to the City not earlier than the 120th day before the closing date transferring land to the City;

(b) a category 1(a) land title survey, certified to the City and the title company not earlier than the 120th day before the closing date transferring land to the City;

(c) a title commitment with copies of all Schedule B and C documents, and an owner's title policy;

(d) a fee simple deed, or, for a restriction, a restrictive covenant approved as to form by the city attorney;

(e) taxes prorated to the closing date;

(f) recording fees; and

(g) charges or fees collected by the title company.

(J) ~~[(J)]~~ The Watershed Protection ~~[and Development Review]~~ Department shall adopt rules to identify criteria for director approval under this section to ensure that the proposed mitigation, manner of development, and water quality controls offset the potential environmental impact of the redevelopment.

**PART 9.** A new City Code Section 25-8-27 is added to read:

**§ 25-8-27 REDEVELOPMENT EXCEPTION IN THE WATER SUPPLY RURAL AND WATER SUPPLY SUBURBAN WATERSHEDS**

(A) This section applies to property located in a water supply rural or water supply suburban watershed that has existing commercial development or existing residential development with greater than two dwelling units per lot if:

(1) no unpermitted development occurred on the site after January 1, 1992, and

(2) the property owner files a site plan application and an election for the property to be governed by this section.

(B) In this section, SEDIMENTATION/FILTRATION POND means water quality controls that comply with Section 25-8-213 (*Water Quality Control Standards*) or are approved under Section 25-8-151 (*Innovative Management Practices*)

15/66

(C) The requirements of this subchapter do not apply to the subdivision of property if at the time of redevelopment under this section subdivision and site plan applications are filed concurrently.

(D) The requirements of this subchapter do not apply to the redevelopment of property if the redevelopment meets all of the following conditions:

(1) The redevelopment may not increase the existing amount of impervious cover on the site.

(2) The redevelopment may not increase non-compliance, if any, with Article 7, Division 1 (*Critical Water Quality Zone Restrictions*), Section 25-8-281 (*Critical Environmental Features*), Section 25-8-282 (*Wetland Protection*), Section 25-8-422 (*Water Quality Transition Zone*), or Section 25-8-452 (*Water Quality Transition Zone*).

(3) The redevelopment must comply with construction phase environmental requirements in effect at the time of construction, including Chapter 25-8, Article 5 (*Erosion and Sedimentation Control; Overland Flow*).

(4) The water quality controls for the redeveloped areas or an equivalent area on the site must provide a level of water quality treatment that is equal to or greater than that which was previously provided. At a minimum, the site must provide sedimentation/filtration ponds for the redeveloped area or an equivalent area on the site.

(5) The property owner must mitigate the effects of the redevelopment, if required by and in accordance with Subsection (G).

(6) Redevelopment may not be located within the Erosion Hazard Zone, unless protective works are provided as prescribed in the Drainage Criteria Manual.

(E) City Council approval of a redevelopment in accordance with Subsection (F) is required if the redevelopment:

- (1) includes more than 25 additional dwelling units;
- (2) is located outside the City's zoning jurisdiction;
- (3) is proposed on property with an existing industrial use;
- (4) is inconsistent with a neighborhood plan; or
- (5) will generate more than 2,000 vehicle trips a day above the estimated traffic level based on the most recent authorized use on the property.

(F) City Council shall consider the following factors in determining whether to approve a proposed redevelopment:

- (1) benefits of the redevelopment to the community;
- (2) whether the proposed mitigation or manner of development offsets the potential environmental impact of the redevelopment;
- (3) the effects of off-site infrastructure requirements of the redevelopment; and
- (4) compatibility with the city's long-range planning goals.

(G) Redevelopment of property under this section requires the purchase or restriction of mitigation land.

(1) The combined gross site area impervious cover of the mitigation land and the portion of the redevelopment treated by sedimentation/filtration ponds may not exceed 20

C5/26

percent if in a water supply rural watershed or 40% if in a water supply suburban watershed.

(2) The mitigation requirement may be satisfied by:

- (a) paying into the Water Supply Mitigation Fund a non- refundable amount established by ordinance;
- (b) transferring to the City in accordance with Paragraph (3) mitigation land approved by the director of the Watershed Protection Department within a water supply rural or water supply suburban watershed, either inside or outside the City's jurisdiction;
- (c) placing restrictions in accordance with Paragraph (3) on mitigation land approved by the director of the Watershed Protection Department within a water supply rural or water supply suburban watershed, either inside or outside the City's jurisdiction; or
- (d) a combination of the mitigation methods described in Subparagraphs (a) - (c), if approved by the director of the Watershed Protection Department.

(3) A person redeveloping under this section shall pay all costs of restricting the mitigation land or transferring the mitigation land to the City, including the costs of:

- (a) an environmental site assessment without any recommendations for further clean-up, certified to the City not earlier than the 120th day before the closing date transferring land to the City;
- (b) a category 1(a) land title survey, certified to the City and the title company not earlier than the 120th day before the closing date transferring land to the City;
- (c) a title commitment with copies of all Schedule B and C documents, and an owner's title policy;
- (d) a fee simple deed, or, for a restriction, a restrictive covenant approved as to form by the city attorney;
- (e) taxes prorated to the closing date;
- (f) recording fees; and
- (g) charges or fees collected by the title company.

(H) The Watershed Protection Department shall adopt rules to identify criteria for director approval under this section to ensure that the proposed mitigation, manner of development, and water quality controls offset the potential environmental impact of the redevelopment.

**PART 10.** City Code Section 25-8-41 (*Land Use Commission Variances*) of the City Code is amended to read:

**§ 25-8-41 LAND USE COMMISSION VARIANCES.**

(A) It is the applicant's burden to establish that the findings described in this Section have been met. Except as provided in Subsections (B) and (C), the Land Use Commission may grant a variance from a requirement of this subchapter after determining that:

CS/68

- (1) the requirement will deprive the applicant of a privilege or the safety of property given to owners of other similarly situated property with approximately contemporaneous development;
- (2) the variance:
  - (a) is not based on a condition caused by the method chosen by the applicant to develop the property, unless the development method provides greater overall environmental protection than is achievable without the variance;
  - (b) is the minimum change necessary to avoid the deprivation of a privilege given to other property owners and to allow a reasonable use of the property; and
  - (c) does not create a significant probability of harmful environmental consequences; and
- (3) development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

(B) The Land Use Commission may grant a variance from a requirement of ~~[Section 25-8-393 (Water Quality Transition Zone),]~~ Section 25-8-422 [25-8-423] (*Water Quality Transition Zone*), Section 25-8-452 [25-8-453] (*Water Quality Transition Zone*), Section 25-8-482 (Water Quality Transition Zone), or Article 7, Division 1 (*Critical Water Quality Zone Restrictions*) after determining that:

- (1) the criteria for granting a variance in Subsection (A) are met;
  - (2) the requirement for which a variance is requested prevents a reasonable, economic use of the entire property; and
  - (3) the variance is the minimum change necessary to allow a reasonable, economic use of the entire property.
- (C) The Land Use Commission may not grant a variance from a requirement of Article 13[42] (*Save Our Springs Initiative*).
- (D) The Land Use Commission shall prepare written findings of fact to support the grant or denial of a variance request under this section.

**PART 11. City Code Section 25-8-42 (*Administrative Variances*) is amended to read:**  
**§ 25-8-42 ADMINISTRATIVE VARIANCES.**

- (A) A variance under this section may not vary the requirements of Article 13[42] (*Save Our Springs Initiative*) and may not be granted for development of a property if any portion of the property abuts or is within 500 feet of the shoreline of Lake Austin, measured horizontally.
- (B) The director of the Watershed Protection Department may grant a variance from a requirement of:
  - (1) Section 25-8-261 (*Critical Water Quality Zone Development*), only if:
    - (a) necessary to protect public health and safety, or if it would provide a significant, demonstrable environmental benefit, as determined by a

1579

functional assessment of floodplain health as prescribed by the Environmental Criteria Manual,

(b) necessary to allow an athletic field in existence on {the effective date of this ordinance} to be maintained, improved, or replaced,

(c) necessary to allow an athletic field to be located in an area not otherwise allowed under Section 25-8-261 (B) (5), or

(d) necessary to allow a hard surfaced trail to be located in an area not otherwise allowed under Section 25-8-261(B) (3);

(2) Section 25-8-261 (Critical Water Quality Zone Development), for development within an urban watershed, only if the proposed development:

(a) is located not less than 25 feet from the centerline of a waterway,

(b) is located outside the erosion hazard zone, unless protective works are provided as prescribed in the Drainage Criteria Manual.,

(c) does not increase non-compliance, if any, with Article 7, Division 1 (Critical Water Quality Zone Restrictions), Section 25-8-281 (Critical Environmental Features) or Section 25-8-282 (Wetland Protection), and

(d) restores native vegetation and soils if development removed from the Critical Water Quality Zone;

(3) Subsection 25-8-262 (B) (Critical Water Quality Zone Street Crossings), only outside the Barton Springs Zone;

(4) Section 25-8-281 (Critical Environmental Features);

[Subsection 25-8-423(C) (Water Quality Transition Zone);]

(5)[(2)] Section 25-8-322 (Clearing for a Roadway);

[(3) Subsection 25-8-343(A) (Spoil Disposal);]

[(4) Article 7, Division 1 (Critical Water Quality Zone Restrictions)]

(6)[(5)] Section 25-8-341 (Cut Requirements) or Section 25-8-342 (Fill Requirements), for a water quality control or detention facility and appurtenances for conveyance such as swales, drainage ditches, and diversion berms; [or]

(7)[(6)] Section 25-8-341 (Cut Requirements) or Section 25-8-342 (Fill Requirements), for a cut or fill of not more than eight feet in the desired development zone [-];

(8) Subsection 25-8-343(A) (Spoil Disposal);

(9) Section 25-8-365 (Interbasin Diversion).

(C) It is the applicant's burden to establish that the findings described in this Section have been met.

(D) The director of the Watershed Protection Department may grant a variance described in Subsection (B) only after determining that[-(1)] development in accordance with the variance meets the objective of the requirement for which the variance is requested[-] and:

C6/P

(1) ~~(2)~~ for property in the Barton Springs Zone, the variance will result in water quality that is at least equal to the water quality achievable without the variance; [and]

(2) for a variance from Section 25-8-261 (B) (5), that the proposed work on or placement of the athletic field will have no adverse environmental impacts.

(3) for a variance from Section 25-8-281, that the proposed measures preserve all characteristics of the critical environmental feature;

(4) for a variance from Section 25-8-341 or Section 25-8-342 [described in Paragraph (B) (6)], the cut or fill is not located on a slope with a gradient of more than 15 percent or within 100 feet of a classified waterway; [r]

(5) for a variance from Section 25-8-343 (A), use of the spoil provides a necessary public benefit. Necessary public benefits include:

- (a) roadways;
- (b) stormwater detention facilities;
- (c) public or private park sites; and
- (d) building sites that comply with Section 25-8-341 (*Cut Requirements*), Section 25-8-342 (*Fill Requirements*), and Chapter 25-7 (*Drainage*); and

(6) for a variance from Section 25-8-365, there are no adverse environmental or drainage impacts.

(E) ~~(D)~~ The Watershed Protection Department director shall prepare written findings to support the grant or denial of a variance request under this section.

**PART 12.** City Code Section 25-8-62 (*Net Site Area*) is amended to add a new Subsection (C) to read:

(C) Net site area does not apply in the urban or suburban watersheds.

**PART 13.** City Code Section 25-8-63 (*Impervious Cover Calculations*) is amended to read:

**§ 25-8-63 IMPERVIOUS COVER CALCULATIONS.**

(A) Impervious cover is calculated in accordance with this Section and the Environmental Criteria Manual.

(B) Impervious cover calculations include:

- (1) roads;
- (2) driveways;
- (3) parking areas;
- (4) buildings;
- (5) concrete;
- (6) impermeable construction covering the natural land surface;

15/11

- (7) for an uncovered wood deck that has drainage spaces between the deck boards and that is located over a pervious surface, 50 percent of the horizontal area of the deck; and
  - (8) ~~[ interlocking or permeable pavers, except up to 20 percent of the area of the pavers may be excluded in calculating impervious cover if the pavers are approved by the director for recharge enhancement under Section 25-8-151 (Innovative Management Practices); and~~
  - ~~(9) ]~~the portion of a site used for the storage of scrap and metal salvage, including auto salvage.
- (C) Impervious cover calculations exclude:
- (1) sidewalks in a public right-of-way or public easement;
  - (2) multi-use trails open to the public and located on public land or in a public easement;
  - (3) water quality controls, excluding subsurface water quality controls;
  - (4) detention basins, excluding subsurface detention basins;
  - ~~(5)[(3)]~~ drainage swales and conveyances;
  - ~~(6)[(4)]~~ ponds, pools, and fountains; [and]
  - ~~(7)[(5)]~~ areas with gravel placed over pervious surfaces that are used only for landscaping or by pedestrians and are not constructed with compacted base;
  - (8) porous pavement designed in accordance with the Environmental Criteria Manual, limited to only pedestrian walkways and multi-use trails, and located outside the Edwards Aquifer Recharge Zone;
  - (9) fire lanes designed as prescribed by the Environmental Criteria Manual, that consist of interlocking pavers, and are restricted from routine vehicle access; and
  - (10) a subsurface portion of a parking structure if the director of the Watershed Protection Department determines that:
    - (a) the subsurface portion of the structure:
      - (i) is located within an urban or suburban watershed;
      - (ii) is below the grade of the land that existed before construction of the structure;
      - (iii) is covered by soil with a minimum depth of two feet and an average depth of not less than four feet; and
      - (iv) has an area not greater than fifteen percent of the site;
    - (b) the structure is not associated with a use regulated by Section 1.2.2 of Subchapter F of Chapter 25-2 (Residential Design and Compatibility Standards);
    - (c) the applicant submits an assessment of the presence and depth of groundwater at the site sufficient to determine whether groundwater will need to be discharged or impounded; and

CS/12

(d) the applicant submits documentation that the discharge or impoundment of groundwater from the structure, if any, will be managed to avoid adverse effects on public health and safety, the environment, and adjacent property.

~~[(D) Chapter 25-2, Subchapter E, Section 2.3.1.B. 1.e. (Impervious Cover Credit) provides for certain exclusions from impervious cover calculations for large development sites outside the Barton Springs Zone.]~~

**PART 14.** City Code Section 25-8-65 (*Roadways*) is deleted in its entirety.

**PART 15.** A new City Code Section 25-8-65 is added to read:

**§ 25-8-65 COMMERCIAL IMPERVIOUS COVER**

(A) This section applies to impervious cover calculations for commercial developments.

(B) An application for a commercial development must demonstrate that once fully constructed, the development will not exceed applicable maximum impervious cover limitations.

(C) Subsection (B) does not apply to an application for a commercial site development, including a roadway project, which will not exceed 5,000 square feet of new impervious cover. For the purposes of this Section, roadway improvements are limited to intersection upgrades, low-water crossing upgrades, additions for bicycle lanes, and additions for mass transit stops.

**PART 16.** City Code Section 25-8-91 (*Waterway Classifications*) is amended to read:

**§ 25-8-91 WATERWAY CLASSIFICATIONS.**

(A) This section classifies the [significant] waterways [in each watershed] according to drainage area.

(B) In all watersheds except urban ~~[a suburban watershed]:~~

(1) a minor waterway has a drainage area of at least 64~~[320]~~ acres and not more than 320~~[640]~~ acres;

(2) an intermediate waterway has a drainage area of more than 320~~[640]~~ acres and not more than 640~~[1280]~~ acres; and

(3) a major waterway has a drainage area of more than 640~~[1280]~~ acres.

~~[(C) In a water supply suburban watershed:~~

~~\_\_\_\_\_ (1) a minor waterway has a drainage area of at least 128 acres and not more than 320 acres;~~

~~\_\_\_\_\_ (2) an intermediate waterway has a drainage area of more than 320 acres and not more than 640 acres; and~~

~~\_\_\_\_\_ (3) a major waterway has a drainage area of more than 640 acres.~~

~~\_\_\_\_\_ (D) In a water supply rural watershed:~~



05/13

~~(1) a minor waterway has a drainage area of at least 64 acres and not more than 320 acres;~~

~~(2) an intermediate waterway has a drainage area of more than 320 acres and not more than 640 acres; and~~

~~(3) a waterway has a drainage area of more than 640 acres.~~

~~(E) In the Barton Springs Zone:~~

~~(1) for the Barton Creek, Bear Creek, Little Barton Creek, Little Bear Creek, and Onion Creek watersheds:~~

~~(a) a minor waterway has a drainage area of at least 64 acres and not more than 320 acres;~~

~~(b) an intermediate waterway has a drainage area of more than 320 acres and not more than 640 acres; and~~

~~(c) a major waterway has a drainage area of more than 640 acres; and~~

~~(2) for the Slaughter Creek and Williamson Creek watersheds:~~

~~(a) a minor waterway has a drainage area of at least 128 acres and not more than 320 acres;~~

~~(b) an intermediate waterway has a drainage area of more than 320 acres and not more than 640 acres; and~~

~~(c) a major waterway has a drainage area of more than 640 acres.]~~

**PART 17.** City Code Section 25-8-92 (*Critical Water Quality Zones Established*) is amended to read:

**§ 25-8-92 CRITICAL WATER QUALITY ZONES ESTABLISHED.**

(A) In the water supply rural watersheds, water supply suburban watersheds, and Barton Springs zone, a [A] critical water quality zone is established along each waterway classified under Section 25-8-91 (*Waterway Classifications*).

(1) The boundaries of a critical water quality zone coincide with the boundaries of the 100 year flood plain calculated under fully developed conditions as prescribed by the Drainage Criteria Manual, except:

(a) for a minor waterway, the boundaries of the critical water quality zone are located not less than 50 feet and not more than 100 feet from the centerline of the waterway;

(b) for an intermediate waterway, the boundaries of the critical water quality zone are located not less than 100 feet and not more than 200 feet from the centerline of the waterway;

(c) for a major waterway, the boundaries of the critical water quality zone are located not less than 200 feet and not more than 400 feet from the centerline of the waterway; and

(d) for the main channel of Barton Creek, the boundaries of the critical water quality zone are located 400 feet from the centerline of the creek.

CS  
74

(2) Notwithstanding the provisions of Subsections (A) (1) (a), (b), and (c), a critical water quality zone does not apply to a previously modified drainage feature serving a public roadway right of way that does not possess any natural and traditional character and cannot reasonably be restored to a natural condition [extend beyond the crest of a bluff].

(B) In the suburban watersheds, a critical water quality zone is established along each waterway classified under Section 25-8-91 (*Waterway Classifications*).

(1) for a minor waterway, the boundaries of the critical water quality zone are located 100 feet from the centerline of the waterway;

(2) for an intermediate waterway, the boundaries of the critical water quality zone are located 200 feet from the centerline of the waterway; and

(3) for a major waterway, the boundaries of the critical water quality zone are located 300 feet from the centerline of the waterway;

(4) The critical water quality zone boundaries may be reduced to not less than 50 feet from the centerline of a minor waterway, 100 feet from the centerline of an intermediate waterway, and 150 feet from the centerline of a major waterway if the overall surface area of the critical water quality zone is the same or greater than the surface area that would be provided without the reduction, as prescribed in the Environmental Criteria Manual.

(5) Notwithstanding the provisions of Subsections (B) (1), (2), and (3), a critical water quality zone does not apply to a previously modified drainage feature serving a public roadway right of way that does not possess any natural and traditional character and cannot reasonably be restored to a natural condition.

(C) Critical water quality zones are established to include the inundated areas that constitute Lake Walter E. Long, Lake Austin, Lady Bird Lake, and the Colorado River downstream of Lady Bird Lake.

(D)(E) Critical water quality zones are established along and parallel to the shorelines of Lake Travis, Lake Austin, and Lady Bird~~Town~~ Lake.

(1) The shoreline boundary of a critical water quality zone:  
 (a) for Lake Travis, coincides with the 681.0 foot contour line;  
 (b) for Lake Austin, coincides with the 492.8 foot contour line; and  
 (c) for Lady Bird~~Town~~ Lake, coincides with the 429.0 foot contour line.

(2) The width of a critical water quality zone, measured horizontally inland, is:

- (a) 100 feet; or
- (b) for a detached single-family residential use, 75 feet.

(E)(D) Critical water quality zones are established along and parallel to the shorelines of the Colorado River downstream of Lady Bird~~Town~~ Lake.

Cb/75

(1) The shoreline boundary of a critical water quality zone coincides with the river's ordinary high water mark, as defined by Code of Federal Regulations Title 33, Section 328.3 (Definitions).

(2) The inland boundary of a critical water quality zone coincides with the boundary of the 100-year floodplain as delineated by the Federal Emergency Management Agency, except that the width of the critical water quality zone, measured horizontally inland, is not less than 200 feet and not more than 400 feet.

~~(F)~~~~(E)~~ In an urban watershed, a critical water quality zone is established along each waterway with a drainage area of at least 64 acres. This does not apply in the area bounded by IH-35, Riverside Drive, Barton Springs Road, Lamar Boulevard, and 15th Street.

(1) The boundaries of the critical water quality zone coincide with the boundaries of the 100 year floodplain calculated under fully developed conditions as prescribed by the Drainage Criteria Manual; provided that the boundary is not less than 50 feet and not more than 400 feet from the centerline of the waterway.

(2) Notwithstanding the provisions of Subsection (F) (1), a critical water quality zone does not apply to a previously modified drainage feature serving a public roadway right of way that does not possess any natural and traditional character and cannot reasonably be restored to a natural condition. Except as limited by Paragraph (3), for a waterway whose 100-year flood plain has been delineated by the Federal Emergency Management Agency (FEMA):

~~(a) the boundaries of the critical water quality zone coincide with the boundaries of the flood plain as delineated by FEMA; or~~

~~(b) if the applicant has calculated the 100 year flood plain for the waterway and the City has approved the calculations, the boundaries of the critical water quality zone coincide with the boundaries of the calculated flood plain.~~

~~(2) Except as limited by Paragraph (3), for a waterway whose 100-year flood plain has not been delineated by FEMA:~~

~~(a) the boundaries of a critical water quality zone are located 100 feet from the centerline of the waterway; or~~

~~(b) if the applicant has calculated the 100 year flood plain for the waterway and the City has approved the calculations, the boundaries of the critical water quality zone coincide with the boundaries of the calculated floodplain.~~

~~(3) The boundaries of a critical water quality zone are located not less than 50 feet and not more than 400 feet from the centerline of the waterway.]~~

**PART 18. City Code Section 25-8-93 (*Water Quality Transition Zones Established*) Subsection (A) is amended to read:**

(A) In the water supply rural watersheds, water supply suburban watersheds, and in the Barton Springs zone, excluding [Except for] Lake Austin, Lake Travis, and Lady Bird

CS  
7/10

[Town] Lake, a water quality transition zone is established adjacent and parallel to the outer boundary of each critical water quality zone.

**PART 19.** The title of City Code Chapter 25-8, Subchapter A, Article 3 is amended to read:

**ARTICLE 3. ENVIRONMENTAL RESOURCE INVENTORY ~~[ASSESSMENT]~~;  
POLLUTANT ATTENUATION PLAN.**

**PART 20.** City Code Section 25-8-121 (*Environmental Assessment Requirement*) is amended to read:

**§ 25-8-121 ENVIRONMENTAL RESOURCE INVENTORY ~~[ASSESSMENT]~~  
REQUIREMENT.**

(A) An applicant shall file an environmental resource inventory ~~[assessment]~~ with the director for proposed development located:

- (1) over a karst aquifer;
- (2) within an area draining to a karst aquifer or reservoir;
- (3) in a water quality transition zone;
- (4) in a critical water quality zone;
- (5) in a floodplain ~~[flood plain]~~; or
- (6) on a tract with a gradient of more than 15 percent.

(B) An environmental resource inventory ~~[assessment]~~ must:

- (1) identify critical environmental features and propose protection measures for the features;
- (2) provide an environmental justification for spoil disposal locations or roadway alignments;
- (3) propose methods to achieve overland flow ~~[-and justify enclosed storm sewers; and]~~
- (4) describe proposed industrial uses and the pollution abatement program; and
- (5) be completed as prescribed by the Environmental Criteria Manual.

(C) An environmental resource inventory ~~[assessment]~~ must include:

- (1) a hydrogeologic report in accordance with Section 25-8-122 (*Hydrogeologic Report*);
- (2) a vegetation report in accordance with Section 25-8-123 (*Vegetation Report*); and
- (3) a wastewater report in accordance with Section 25-8-124 (*Wastewater Report*).

(D) The director of the Watershed Protection Department may permit an applicant to exclude from an environmental resource inventory ~~[assessment]~~ information required by this section after determining that the information is unnecessary because of the scope and nature of the proposed development.

65/77

**PART 21.** City Code Section 25-8-122 (*Hydrogeologic Report*) is amended to read:

**§ 25-8-122 HYDROGEOLOGIC REPORT.**

A hydrogeologic report must:

- (1) generally describe the topography, soils, and geology of the site;
- (2) identify springs and significant point recharge features on the site; ~~and~~
- (3) demonstrate that proposed drainage patterns will protect the quality and quantity of recharge at significant point recharge features; and [-]
- (4) identify all recorded and unrecorded water wells, both on the site and within 150 feet of the boundary of the site.

**PART 22.** City Code Section 25-8-125 (*Pollutant Attenuation Plan*) is amended to read:

**§ 25-8-125 POLLUTANT ATTENUATION PLAN.**

An applicant proposing an industrial use that is not completely enclosed in a building shall provide a pollutant attenuation plan in accordance with the ~~[Administrative and the]~~ Environmental Criteria Manual~~[Manuals]~~.

**PART 23.** City Code Section 25-8-151 (*Innovative Management Practices*) is amended to read:

**§ 25-8-151 INNOVATIVE MANAGEMENT PRACTICES.**

(A) An innovative water quality control is a practice that is not specifically prescribed in the Environmental Criteria Manual, but is designed to address the requirements of Article 6 (*Water Quality Controls*).

(B) An innovative runoff management practice is a practice that is designed to address the requirements of ~~[- Article 6 (*Water Quality Controls*) and]~~ Section 25-8-281 (*Critical Environmental Features*), enhance the recharge of groundwater and the discharge of springs, and maintain the function of critical environmental features. ~~[-The City encourages innovative management practices.]~~

(C) ~~(B)~~ A proposal for an~~[An]~~ innovative water quality control or runoff management ~~[proposal]~~ practice must be reviewed and approved by the Watershed Protection ~~[and Development Review]~~ Department. Review and approval is based on:

- (1) technical merit;
- (2) compliance with the requirements of this title for water quality protection and improvement;
- (3) resource protection and improvement;
- (4) advantages over standard practices; and
- (5) anticipated maintenance requirements.

65/8

**PART 24.** City Code Section 25-8-182 (*Development Completion*) Subsection (A) is amended to read:

(A) Development is not completed until:

- (1) permanent revegetation is established; and
- (2) the Planning [~~Watershed Protection~~] and Development Review

Department:

- (a) receives the engineer's concurrence letter; and
- (b) certifies installation of the vegetation for acceptance.

**PART 25.** City Code Section 25-8-183 (*Modification of Erosion Control and Construction Sequencing Plans*) is amended to read:

**§ 25-8-183 MODIFICATION OF EROSION CONTROL AND CONSTRUCTION SEQUENCING PLANS.**

A City inspector may modify an erosion control plan or construction sequencing plan in the field:

- (1) without notice to the permit holder, if the modification is a minor change to upgrade erosion controls or reflect construction progress; and
- (2) after two days written notice to the permit holder, if:
  - (a) the inspector determines that an erosion control or the construction sequencing is inappropriate or inadequate; and
  - (b) the director [~~Watershed Protection and Development Review Department~~] has confirmed in writing the inspector's determination.

**PART 26.** City Code Section 25-8-184 (*Additional Erosion and Sedimentation Control Requirements in the Barton Springs Zone*) Subsections (B) and (C) are amended to read:

(B) A temporary erosion and sedimentation control plan and a water quality plan certified by a registered professional engineer and approved by the Planning [~~Watershed Protection~~] and Development Review Department is required.

(1) The plans must describe the temporary structural controls, site management practices, or other approved methods that will be used to control of off-site sedimentation until permanent revegetation is certified as completed under Section 25-8-182 (*Development Completion*).

(2) The temporary erosion control plan must be phased to be effective at all stages of construction. Each temporary erosion control method must be adjusted, maintained, and repaired as necessary.

(C) The Planning [~~Watershed Protection~~] and Development Review Department may require a modification of the temporary erosion control plan after determining that the plan does not adequately control off-site sedimentation from the development. Approval by the Planning [~~Watershed Protection~~] and Development Review Department and the engineer who certified the plan is required for a major modification of the plan.

C3  
79

**PART 27.** City Code Section 25-8-185 (*Overland Flow*) is amended to read:  
**§ 25-8-185 OVERLAND FLOW.**

- (A) Drainage patterns must be designed to:
- (1) prevent erosion;
  - (2) maintain infiltration and recharge of local seeps and springs;
  - (3) attenuate the harm of contaminants collected and transported by stormwater; and
  - (4) where possible, maintain and restore overland sheet flow, maintain natural drainage features and patterns, and disperse runoff back to sheet flow.

~~[(B) Construction of an enclosed storm sewer or an impervious channel lining is prohibited unless the director determines, based on engineering evidence, that an enclosed storm sewer or impervious channel lining is the preferred option. A conflict between the requirements of this subsection and another requirement of this title may be resolved by an appeal to the Land Use Commission.]~~

(B) ~~[(C)]~~ The applicant shall design an enclosed storm drain ~~[sewer]~~ to mitigate potential adverse impacts ~~[its harmful effect]~~ on water quality by using ~~[structural devices or other]~~ methods to prevent erosion and dissipate discharges from outlets. Applicant shall locate [wherever practicable, and by locating] discharges to maximize overland flow through buffer zones or grass-lined swales wherever practicable.

**PART 28.** A new City Code Section 25-8-186 (*Fiscal Security*) is added to read:  
**§ 25-8-186 FISCAL SECURITY**

- A site plan may be approved only if the applicant provides fiscal security for:
- (1) installing and maintaining erosion and sedimentation controls throughout construction on the site;
  - (2) revegetating the site; and
  - (3) performing on-site and off-site cleanup.

**PART 29.** City Code Section 25-8-211 (*Water Quality Control Requirement*) is amended to read:

**§ 25-8-211 WATER QUALITY CONTROL REQUIREMENT.**

(A) In the Barton Springs Zone, water quality controls are required for all development.

(B) In a watershed other than a Barton Springs Zone watershed, water quality controls are required for development:

- (1) located in the water quality transition zone;
- (2) of a golf course, play field, or similar recreational use, if fertilizer, herbicide, or pesticide is applied; or
- (3) if the total of new and redeveloped impervious cover exceeds 5,000 square feet. ~~[except as provided in Subsection (C), with impervious cover that exceeds 20 percent of net site area.]~~

C5  
80

- (C) ~~[In an urban watershed:~~  
~~(1) water quality controls are required in accordance with the~~  
~~Environmental Criteria Manual; and~~  
~~(2) new]~~ All new development must provide for removal of floating debris from stormwater runoff.

(D) The water quality control requirements in this division do not require water quality controls on a single-family or duplex lot but apply to the residential subdivision as a whole.

(E) The water quality control requirements in this division do not require water quality controls for a roadway project with less than 5,000 square feet of new impervious cover. For the purposes of this Section, roadway improvements are limited to intersection upgrades, low-water crossing upgrades, additions for bicycle lanes, and additions for mass transit stops.

**PART 30.** City Code Section 25-8-213 (*Water Quality Control Standards*) is amended to read:

**§ 25-8-213 WATER QUALITY CONTROL STANDARDS.**

(A) A water quality control must be designed in accordance with the Environmental Criteria Manual.

(1) The control must provide at least the treatment level of a sedimentation / filtration system under the Environmental Criteria Manual.

(2) An impervious liner is required in an area where there is surface runoff to groundwater conductivity. If a liner is required and controls are located in series, liners are not required for the second or later in the series following sedimentation, extended detention, or sedimentation/filtration.

(3) The control must be accessible for maintenance and inspection as prescribed in the Environmental Criteria Manual.

(B) A water quality control must capture ~~[, isolate,]~~ and treat the water draining to the control from the contributing area. The required capture volume is:

- (1) the first one-half inch of runoff; and
- (2) for each 10 percent increase in impervious cover over 20 percent of gross site area, an additional one-tenth of an inch of runoff.

(C) The location of a water quality control:

- (1) must avoid recharge features to the greatest extent possible;
- (2) must be shown on the slope map, preliminary plan, site plan, or subdivision construction plan, as applicable; and

(3) in a water supply rural watershed, may not be in the 40 percent buffer zone, unless the control disturbs less than 50% of the buffer, and is located to maximize overland flow and recharge in the undisturbed remainder of the 40 percent buffer zone.

(D) This subsection provides additional requirements for the Barton Springs Zone.



CS  
81

(1) Approval by the Watershed Protection ~~[and Development Review]~~ Department is required for a proposed water quality control that is not described in the Environmental Criteria Manual. The applicant must substantiate the pollutant removal efficiency of the proposed control with published literature or a verifiable engineering study.

(2) Water quality controls must be placed in sequence if necessary to remove the required amount of pollutant. The sequence of controls must be:

- (a) based on the Environmental Criteria Manual or generally accepted engineering principles; and
- (b) designed to minimize maintenance requirements.

**PART 31.** City Code Section 25-8-214 (*Optional Payment Instead of Structural Controls in Urban Watersheds*) is amended to read:

**§ 25-8-214 OPTIONAL PAYMENT INSTEAD OF STRUCTURAL CONTROLS IN URBAN WATERSHEDS.**

(A) The director of the Watershed Protection Department shall identify and prioritize water quality control facilities for the urban watersheds in the Urban Watersheds Structural Control Plan. The Environmental Board shall review the plan in January of each year.

(B) An Urban Watersheds Structural Control Fund is established for use in the design and construction of water quality control facilities in the urban watersheds.

(C) Instead of providing the water quality controls required under Section 25-8-211 (*Water Quality Control Requirement*), in an urban watershed a developer may request approval to deposit with the City a nonrefundable cash payment, based on a formula established by the council. The director shall review the request and accept or deny the request based on the standards in the Environmental Criteria Manual ~~[not later than the 15th working day after its receipt]~~.

(D) The director shall deposit a payment made under this section in the Urban Watersheds Structural Control Fund.

**PART 32.** City Code Section 25-8-231 (*Water Quality Control Maintenance and Inspection*) Subsections (D) through (H) are amended to read:

(D) The director of the Watershed Protection Department may authorize an alternative arrangement for maintenance of a residential or commercial pond ~~[basin]~~ in accordance with the Environmental Criteria Manual [ECM] standards. If an alternative arrangement is approved by the director, the city attorney shall determine whether an agreement is necessary; the agreement must be approved by the city attorney and filed of record.

(E) The City shall inspect each commercial pond that is not a subsurface pond at least once every three years to ensure that the commercial pond is being maintained in accordance with the ECM standards. If the commercial pond fails inspection requiring an

C5  
82

additional inspection, the director of the Watershed Protection Department may charge a re-inspection fee.

(F) The record owner of a subsurface commercial pond must provide the Watershed Protection Department with a maintenance plan and an annual report from a registered engineer verifying that the pond is in proper operating condition.

(G) Until the City accepts a residential pond for maintenance, the record owner(s) of the residential pond and the residential development served shall maintain the residential pond in accordance with the ECM standards.

(H)~~(G)~~ The City shall be responsible for maintenance of a residential pond only after the residential pond has been accepted for maintenance by the city. The city will accept a residential pond upon determining that it meets the requirements of the Environmental Criteria Manual and, if applicable, Section 25-8-234 (*Fiscal Security in the Barton Springs Zone*).

**PART 33.** City Code Section 25-8-232 (*Dedicated Fund*) is amended to read:  
**§ 25-8-232 DEDICATED FUND.**

(A) The director of the Finance Department shall establish a dedicated fund to:  
(1) monitor water quality controls; and  
(2) maintain water quality controls for single-family and duplex residential development.

(B) An applicant shall pay the required fee into the fund:  
(1) for development that does not require a site plan, when the applicant posts fiscal security for the subdivision or requests that the director record the subdivision plat, whichever occurs first; or  
(2) for development that requires a site plan, when the site plan is approved.

(C) The director of the Watershed Protection ~~[and Development Review]~~ Department shall administer the fund, allocate the fund for appropriate projects, and report annually to the council regarding the status of the fund and the monitoring and maintenance program described in this section.

**PART 34.** City Code Section 25-8-233(*Barton Springs Zone Operating Permit*) is amended to substitute the Planning and Development Review Department for the Watershed Protection Department.

**PART 35.** City Code Section 25-8-261(*Critical Water Quality Zone Development*) is amended to read:

**§ 25-8-261 CRITICAL WATER QUALITY ZONE DEVELOPMENT.**

In all watersheds, development is prohibited in a critical water quality zone except as provided in this Division.

15/83

(A) A fence that does not obstruct flood flows is permitted in a critical water quality zone.

(B) Open space~~[A public or private park, golf course, or open spaces, other than a parking lot,]~~ is permitted in a critical water quality zone if a program of fertilizer, pesticide, and herbicide use is approved by the Watershed Protection ~~[and Development Review]~~ Department, subject to the conditions in this Subsection.

(1) In a water supply rural watershed, water supply suburban, or the Barton Springs Zone, open space ~~[park development]~~ is limited to sustainable urban agriculture or a community garden if the requirements in subsection (B) (4) are met, multi-use trails, picnic facilities, ~~[hiking, jogging, or walking trails]~~ and outdoor facilities, excluding ~~[and excludes]~~ stables, ~~[and]~~ corrals for animals and athletic fields.

(2) A~~[In the Barton Springs Zone, a]~~ master planned park that is ~~[reviewed by the Land Use Commission and]~~ approved by the council may include recreational development other than that described in Subsection (B)(1).

(3) A hard surfaced trail that does not cross the critical water quality zone may be located within the critical water quality zone only if:

- (a) designed in accordance with the Environmental Criteria Manual;
- (b) located outside the erosion hazard zone unless protective works are provided as prescribed in the Drainage Criteria Manual;
- (c) limited to 12 feet in width unless a wider trail is designated in the Urban Trails Master Plan adopted by Council;
- (d) located not less than 25 feet from the centerline of a waterway if within an urban watershed and not crossing the Critical Water Quality Zone; and
- (e) located not less than 50 feet from the centerline of a minor waterway, 100 feet from the centerline of an intermediate waterway, and 150 feet from the centerline of a major waterway if within a watershed other than an urban watershed and not crossing the Critical Water Quality Zone.

(4) Open space may include sustainable urban agriculture or a community garden only if:

- (a) in an urban watershed and located not less than 25 feet from the centerline of a waterway, or in a watershed other than an urban watershed and located not less than 50 feet from the centerline of a minor waterway, 100 feet from the centerline of an intermediate waterway, and 150 feet from the centerline of a major waterway;

(b) designed in accordance with the Environmental Criteria Manual;

and

(c) limited to garden plots and paths, with no storage facilities or other structures over 500 square feet.

(5) In a suburban or urban watershed, open space may include an athletic field only if: