

An aerial perspective sketch of a city block. In the center is a rectangular green lawn with some small trees and figures of people. To the left is a large, multi-story building with a flat roof and a series of wooden walkways or balconies. To the right is a street with several cars and a bus. Further right is another large building with a blue-tinted facade. The sketch is done in a loose, artistic style with visible lines and a limited color palette.

Key CodeNEXT Watershed Proposals

Environmental Commission November 1, 2017

CodeNEXT Environmental & Drainage Proposals

- Green Stormwater Infrastructure & Beneficial Use
 - Water Quality
 - Water Conservation
 - Environmental Function & Resilience
- Flood Mitigation for Redevelopment
 - Forward progress on drainage & flooding
- Residential Heavy
 - Requirements for “missing middle” residential development with 3– 6 units
- Requirements for 1-2 unit residential



<http://foundcom.org/housing/our-austin-communities/m-station-apartments/>



Green Stormwater Infrastructure & Beneficial Use

Goals from Imagine Austin:

1. Sustainably manage water (water quality, water conservation, resilience)
2. Integrate nature into the city (green infrastructure, multiple benefits)

Council Resolution on Green Infrastructure [20170615-071](#)

Process to date:

- Green Infrastructure Working Group public input
- CodeNEXT Draft 1&2 → 23-3D-6030: portion of the required capture volume for water quality must be retained and beneficially used on-site
 - Use green infrastructure practices (infiltrate, evapotranspire, harvest/use rainwater)
 - Portion based on 95th percentile rainfall event
- But need clear path to implementation



Current Water Quality Code Requirements

What we do today:

1. Site Plan projects: commercial, multifamily, civic, etc.
 - “Half-inch-plus” water quality capture volume sizing; 48 hour drawdown
 - Sand filter treatment standard
 - Green Stormwater Infrastructure (GSI) options available
 - Most sites use sand filters
2. Building Permit projects: Single-Family Residential
 - No water quality controls required (done at subdivision phase)

➤ Proposal: Move to Green Infrastructure expectation

Green Stormwater Solutions



Rain Gardens



Green Roofs



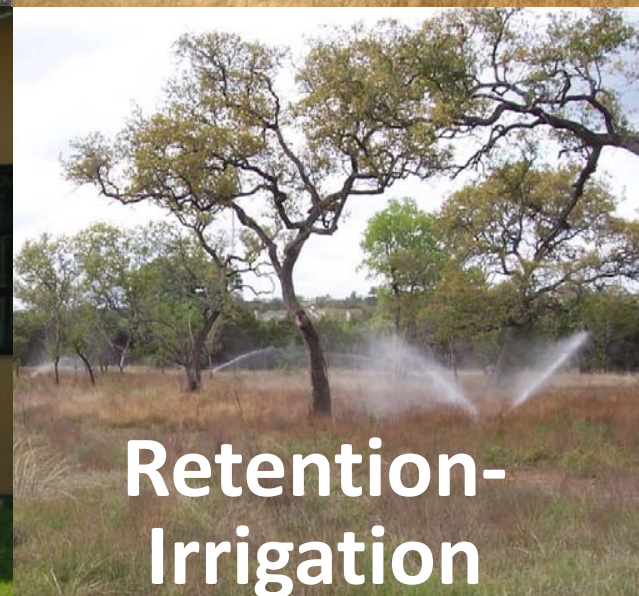
Vegetative
Filter Strips



Porous
Pavement



Rainwater
Harvesting



Retention-
Irrigation



Proposed GSI & Beneficial Use Code for Draft 3

4 Scenarios:

1. Site Plan projects \leq 80% impervious cover
2. Site Plan projects $>$ 80% impervious cover
3. Single-family residential subdivisions
4. Building Permits for single-family & Residential Heavy (Missing Middle)



Proposed GSI & Beneficial Use Code for Draft 3

1. Site Plan projects \leq 80% Impervious Cover (IC)
 - Use green stormwater infrastructure (defined in Environmental Criteria Manual)
 - Sand filters to be rarely used
 - Some minor exceptions and options (discussed later)
2. Site Plan projects $>$ 80% IC
 - Must capture rainwater for irrigation and/or indoor use
 - Use water balance to calculate water needs (expected landscaping demand)
 - Must connect rainwater system to irrigation and/or interior building use
 - May use 25% of water quality volume for conservation storage; draw down within 28 days
 - OK to use sand filter (or other) for remainder (75%) of capture volume



Proposed GSI & Beneficial Use Code for Draft 3

3. Single-Family Residential Subdivisions

- Similar to $\leq 80\%$ IC site plans (use green stormwater infrastructure, etc.)
- All controls (e.g., rain gardens) to be in common lots, maintained by WPD Field Ops
- Biofilters and rain gardens most likely solutions

4. Building Permits for Single-Family & Residential Heavy (3 – 6 units)

- No water quality controls required (same as current)
- Properties with this zoning have 45% max. IC—same as today
- (Residential zoning with 7-9 units to provide Site Plan and full WQ controls
 - Same as projects with Site Plans and $\leq 80\%$ IC)



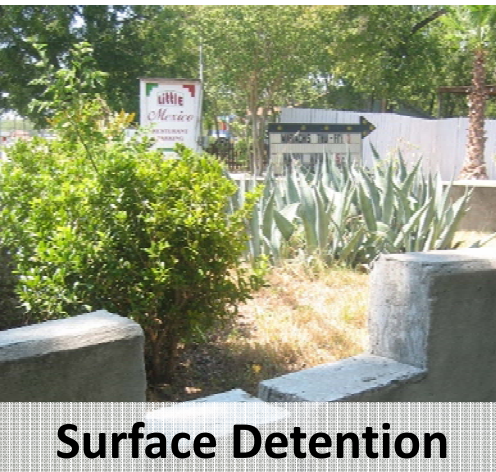
Proposed GSI & Beneficial Use Code for Draft 3

Exceptions/Alternatives

- Conventional water quality controls allowed under certain conditions
 - Hot-spot land uses (e.g., automotive repair)
 - Regional ponds with > 10 acres of untreated, off-site development
 - Balance of water quality volume not contained in conservation tank (per previous slide)
 - Administrative variance for unique site conditions (e.g., heritage trees, CEFs, grade challenges)
- Alternative RWH sizing available (custom drawdown time and reuse)
- $\leq 80\%$ IC Site Plan projects may use 25% conservation volume option for water quality volume drawdown (GSI for remaining volume)

CodeNEXT Proposal: Flood Mitigation

- Redevelopment projects contribute their share to address downstream flooding
- 23-10E-3010 Critical for Approval of Development Applications
 - “the proposed development...reduces the post-development peak flow rate of discharge to match the peak flow rate of discharge for undeveloped conditions as prescribed in the Drainage Criteria Manual”
- Payment-in-lieu option where appropriate—to participate, project must demonstrate that it has no adverse impact and adequate downstream conveyance capacity.



Surface Detention



Parking Lot Detention



Underground



Conveyance

CodeNEXT Proposal: Flood Mitigation

- Tools for mitigating flood impacts & reducing peak flows include:
 - Detention (surface or subsurface)
 - Conveyance improvements
 - Regional Stormwater Management Program (RSMP)





CodeNEXT Proposal: Residential Heavy

Proposed change in regulations and review process for “missing middle” residential development

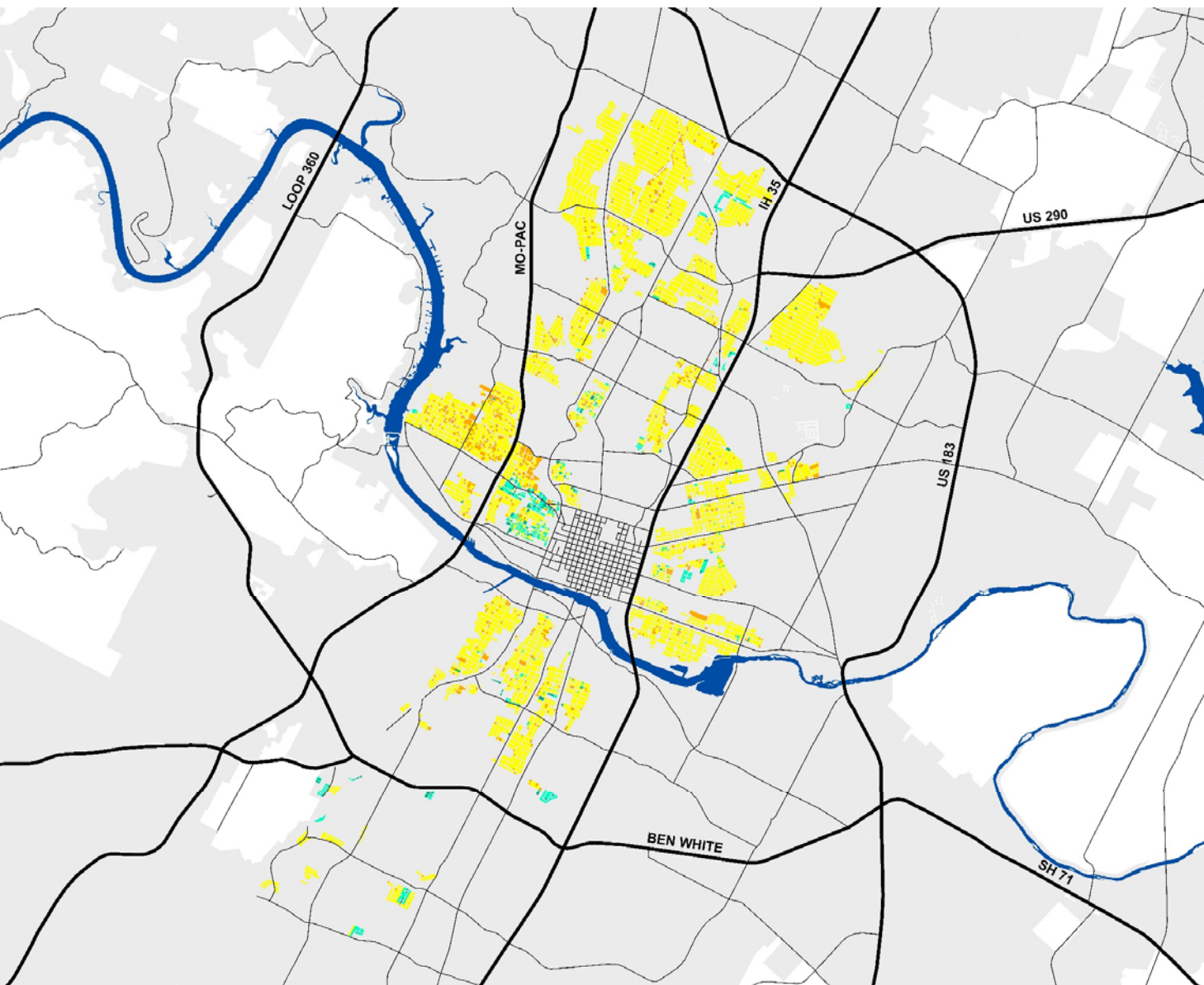
- Eliminates site plan requirement and moves permitting to residential building permit
- Limited to 3-6 units on residential lots (74% of all 3-9 unit lots)
- Adds modified environmental and drainage requirements to residential review
- Requirements vary based on subdivision date
- Not allowed in Barton Springs Zone

CodeNEXT Proposal: Residential Heavy

	Parcels	Acres	% of RH (parcels)	% of 1-9 (parcels)	% of City (area)	Max IC
45% IC limits (3-6 units) total	27,074	4,840	74%	17%	2.4%	45%
>45% IC limit (6-9 units) total	9,442	1,584	26%	6%	0.8%	55-80%
3-9 Unit Eligible Total	36,516	6,424	100%	24%	3.1%	45-80%

	Parcels	Acres	% of 1-9 (parcels)	% of City (area)	Max IC
< 45% IC: 1 - 2 units	118,512	40,838	76%	58%	45%

Note: Analysis is based on CodeNEXT (draft 2) zoning for 3-9 unit development



- R3A, R3B, R3C
- R3C: Cottage Court Eligible
- R4A, R4B, R4C
- R4: Cottage Court Eligible
- Zoning Jurisdiction



CodeNEXT Proposal: Residential Heavy

Environmental Requirements

Watershed	Urban		Non-Urban	
Subdivision Date	pre-86	post-86, 2013	pre-86	post-86, 2013
Impervious cover	✓	✓	✓	✓
Creek buffers		✓		✓
Creek erosion hazard zone	✓	✓	✓	✓
Floodplain modification				
Env. Resource Inventory				
CEFs/Wetlands				
Grading (cut/fill)			✓	✓
Steep slopes				✓
Tree protection	✓	✓	✓	✓
Erosion controls	✓	✓	✓	✓

CodeNEXT Proposal: Residential Heavy

Water Quality & Drainage Requirements

Watershed	Urban		Non-Urban	
Subdivision Date	pre-86	post-86 & post-2013	pre-86	post-86 & post-2013
Water quality				
Floodplain	✓	✓	✓	✓
Drainage analysis by P.E. certifying no additional impact to private property and show flow to public easement	✓	✓	✓	✓
Adverse impact detention analysis or on-site detention per DCM				



CodeNEXT Proposal: 1-2 Unit Development

Current code does not exempt 1-2 unit residential development from environmental and drainage regulations although requirements have not been applied since at least 1986.

- Some requirements may not be suitable for this type of development
- Staff desires to have review process reflect regulations
- After considering feedback received at Development Committee meeting Watershed and Development Services staff are evaluating options to address:
 - Concerns raised by stakeholders
 - Impacts to permit cost and time
 - DSD resource impacts



Contact Information

Matt Hollon

Watershed Protection Department
City of Austin

(512) 974-2212

matt.hollon@austintexas.gov