

ORDINANCE AMENDMENT REVIEW SHEET

Amendment: C20-2022-005a, Land Development Code Amendments

Description: Consider an ordinance regarding amendments to Title 25 related to environmental protection and landscape requirements.

Proposed Language: Draft language is included as Attachment A.

Summary of proposed code changes: A summary of the proposed code changes is included as Attachment B.

Background: This ordinance responds to Council Resolution No. 20220609-061, which initiated Land Development Code amendments related to environmental, drainage, and landscape requirements. The resolution directed staff to present most of the initiated amendments to Council for consideration by September 15, 2022. The initiated code amendments and a summary of the staff proposal is provided below:

1. Establish criteria that prioritize when green stormwater methods should be required or incentivized over conventional stormwater controls;

The proposed code amendments would require most sites to use green stormwater infrastructure, or GSI, to meet water quality treatment requirements. This amendment was previously proposed and reviewed as part of the Land Development Code (LDC) Revision.

Under current code, many sites meet water quality treatment requirements by building a sedimentation/filtration pond. Sedimentation/filtration devices provide some water quality benefits by filtering polluted runoff and helping control stream-channel erosion, but they do not significantly address other important ancillary goals such as supporting on-site vegetation, increasing rainwater infiltration, and reducing potable water consumption. Requiring most sites to use GSI instead of conventional grey stormwater infrastructure will provide myriad benefits, including stormwater infiltration, soil health, wildlife habitat, urban heat island mitigation, water conservation, aesthetic value, and other ecosystem services.¹ GSI also provides enhanced water quality benefits compared to sedimentation/filtration devices, including better removal of nutrients from stormwater and further reductions in erosive flows.²

The proposed code amendments would allow developments to choose from a variety of green stormwater controls, including biofiltration ponds, rain gardens, rainwater harvesting systems, porous pavement, and retention-irrigation systems (which can be built in conjunction with green roofs). All of these systems beneficially use rainwater to infiltrate and/or offset potable

¹ Christman et al. 2022. Stormwater Control Measure Audit. City of Austin, Unpublished.

² Richter, A. 2018. Structural Stormwater Control Measure Performance Update 2018. City of Austin, SR-18-08.

water. Staff also proposes to increase the beneficial use benefits of these controls over time through improvements to the design criteria in the Environmental Criteria Manual.

The proposed code amendments provide some exceptions from the GSI requirement, allowing conventional controls to be used for sites with more than 90 percent impervious cover, regional ponds, difficult site conditions, and “hot-spot” land uses with highly contaminated runoff (e.g., auto repair facilities).

In addition to the requirement that most sites to provide water quality treatment using GSI, the ordinance includes several additional provisions that encourage or enable the use of green stormwater controls. First, rain gardens and biofiltration ponds can be integrated into landscaped areas to simultaneously meet water quality and Functional Green landscaping requirements. Second, the ordinance includes a new administrative variance to allow voluntary green stormwater infrastructure retrofits within the inner half of the critical water quality zone. Third, the ordinance exempts rainwater harvesting tanks from impervious cover calculations to promote greater use.

2. Require surface parking lot stormwater to enter pervious parking lot islands, landscaped medians, and perimeter landscapes as a method of water quality and require that pavement be graded to allow runoff to enter planting areas;

The proposed amendments would allow stormwater to enter parking lot landscape areas by removing an existing requirement that all parking lot landscape areas be protected by a 6-inch curb and requiring applicants to drain stormwater to landscape areas where possible. Staff do not recommend requiring that all parking lot landscape areas serve as water quality controls that comply with water quality treatment requirements. However, these amendments would increase the infiltration and beneficial use of stormwater and provide an incentive for sites to integrate rain gardens into landscaped areas. Staff is also proposing that the amendments replace an existing requirement to irrigate 50 percent of a site’s required landscape area with stormwater, which has proven difficult to implement and can be cumbersome to demonstrate compliance with on landscape plans.

3. Implement Functional Green requirements for properties with more than 80% allowable impervious cover;

The proposed amendments implement the Functional Green Landscape requirements previously proposed in the LDC Revision, with minor formatting edits to improve clarity and fit the requirements into the appropriate location within Title 25. Functional Green Landscape is based on the ecosystem service value created by landscape areas. It is intended to improve ecological balance, replenish native vegetation, and enhance public health, safety, and welfare for development projects that are more urban in context rather than the suburban or greenfield development projects to which the existing landscape code is more applicable.

Functional Green Landscape requirements would apply to sites with total allowable impervious cover greater than 80 percent gross site area, including downtown properties zoned Central

Business District (CBD) and Downtown Mixed-Use (DMU). Sites would be required to provide landscaping elements that achieve a Functional Green Score of at least 0.3. The Functional Green Score measures the total amount of ecosystem services provided by the landscape elements proposed on a site. The scoring is based on the assigned value per square foot of each landscape element in relation to the area of the site.

4. Require that all subdivisions and site plans in Urban Watersheds meet steep slope protections;

The Council resolution directed staff to engage stakeholders about this proposed amendment and to return to Council for consideration in November. Therefore, no code amendments are proposed at this time and will instead be proposed at a later date.

5. Allow cisterns to be sized beyond the required storm capture amount and remove requirement for stormwater release so that they can supply irrigation needs throughout the year;

The Land Development Code and Environmental Criteria Manual currently allow cisterns to be sized beyond the required storm capture amount, and there is no requirement that the additional volume be released in 48 to 72 hours. The additional volume can therefore supply irrigation needs throughout the year.

Since code currently allows for rainwater harvesting systems that provide redundant functions, staff does not recommend code amendments at this time. However, the recommended next step is to move towards allowing systems that can use one volume to take credit for providing dual functions (potable water offset and stormwater quality treatment). To this end, Austin Water and the Watershed Protection Department will work together to update the Environmental Criteria Manual to provide technical guidance on the design of rainwater harvesting systems that can provide potable water offset and receive a credit towards the stormwater quality volume. This change will be enacted by December 2023, when the rainwater harvesting mandate for large developments will go into effect.

6. Require new and redeveloped projects to use greenfield conditions as a baseline when calculating drainage requirements;

The Council resolution directed staff to engage stakeholders about this proposed amendment and to return to Council for consideration in November. Therefore, no code amendments are proposed at this time and will instead be proposed at a later date.

7. Prohibit in-channel detention ponds, except for capital projects or private/public partnerships where no other alternative is feasible;

Under current code, in-channel detention basins and in-channel wet ponds are only allowed in the critical water quality zone if they do not create additional erosion or sedimentation downstream. A development must perform complex modeling to prove that it meets this standard, so in-channel detention ponds and in-channel wet ponds are relatively rare. However,

the in-channel ponds that have been built have had significant negative impacts on the creek and riparian habitat. The proposed amendment prohibits in-channel detention ponds and in-channel wet ponds unless they are proposed as part of a public capital improvement project or public-private partnership and no alternative location outside of the channel is feasible. This preserves the ability for Watershed Protection Department to achieve its regional flood reduction goals by allowing in-channel detention ponds when no alternative is feasible.

8. Require projects to relocate replaced or upsized wastewater pipes outside of the inner half of the critical water quality zone;

The proposed code amendments clarify that the requirements for utility lines also apply to major replacements of existing utility lines. New lines and major replacements that cross into or through the critical water quality zone must follow the most direct path to minimize disturbance, unless the line will be installed by boring or tunneling. New utility lines and major replacements that run parallel to a creek must be located in the outer half of the critical water quality zone. This code change is a clarification of existing policy; however, further conversations will be necessary to ensure that there is interdepartmental clarity between the Watershed Protection Department and Austin Water so that the determination of what constitutes a major replacement is clear.

9. Provide wetland protections and buffers equally along Lady Bird Lake to help to stabilize and prevent erosion along the shoreline;

Under current code, wetlands associated with the shores of Lake Bird Lake are not protected in the downtown area, between Lamar Boulevard and I-35. The proposed amendments remove this exception and ensure that all wetlands along the shores of Lady Bird Lake are protected. (The proposed amendments retain the existing exemption for any wetlands located along creeks within the downtown area, which are also exempt from critical water quality zone requirements.)

10. Require utility easements to meet the same standards as utility pipes within the creeks and creek buffers; and

The proposed code amendments clarify that the requirements for utility lines also apply to utility easements. Utility easements that cross into or through the critical water quality zone must follow the most direct path to minimize disturbance, unless the utility line will be installed by boring or tunneling. Utility easements that run parallel to a creek must be located in the outer half of the critical water quality zone.

11. Address current environmental code inconsistencies and other minor code revisions in Chapters 25-7 and 25-8 that staff have previously identified and reviewed as part of the Code Next and the Land Development Code revision processes.

Staff are proposing a variety of minor code amendments that were previously included in the LDC Revision. A summary of all the proposed code amendments is included in Attachment B.

In addition to initiating the above code amendments, Council Resolution No. 20220609-061 provided the following direction:

The initiated ordinances will ensure that, for the same environmental impact as a single-family home, the City does not disincentivize small-scale missing middle housing projects.

Under the current code, most of the existing water quality regulations in Chapter 25-8, Subchapter A are written such that they apply to all types of development, whether that be a single-family house, a downtown tower, or a 500-acre residential subdivision. However, in practice there has long been a significant difference in review process between residential building permits and site plans or subdivisions. This has created two problems for small-scale residential development. First, one- to two-unit residential projects are not reviewed for all environmental/water quality regulations, which leads to confusion about code applicability, inconsistent enforcement, and occasionally poor environmental outcomes. Second, the development cost, submittal requirements, and review time needed to comply with all the existing regulations are a deterrent for small-scale missing middle housing. While new residential subdivisions are reviewed for environmental requirements, and therefore single-family residential building permits should in theory not need any additional environmental review, there is significant gray area for previously platted single-family homes that fall under previous regulations. Additionally, some environmental regulations are enforced with single-family residential permits in the field, including erosion and sedimentation controls.

To address these issues and respond to Council's direction to not disincentivize small-scale missing middle housing, this ordinance establishes a set of scaled and streamlined water quality requirements that apply to all one- to two-unit residential development and some small-scale missing middle development. To qualify for the modified regulations, the missing middle development must meet the following requirements:

- It can only include a maximum of 11 units. If the project is participating in the Affordability Unlocked program, the unit cap is raised to 12 or 16 units for Type 1 or Type 2 projects, respectively.
- It must be located on a platted residential lot (i.e., a lot that was originally part of a single-family residential subdivision). This requirement does not supersede any zoning requirements and does not change the number of units that can be constructed on a lot; see the explanation below for additional information.
- It must comply with the lot's zoning impervious cover limit, but may not exceed 55 percent impervious cover.
- It is not subject to Article 13, Save Our Springs Initiative.

The unit cap and impervious cover limit ensure that the missing middle development that is eligible for the streamlined regulations resembles one- to two-unit projects in scale. Limiting the eligibility to projects on residentially platted lots is important because applicable water quality requirements would have been applied at the time of subdivision. It establishes regulatory parity between the missing middle development and the one- to two-unit residential

development that would otherwise be located on the lot. Establishing a uniform set of regulations that apply to both single-family and small-scale missing middle development ensures that projects of very similar scale, with the same potential for environmental and drainage impacts, are subject to the same requirements. This level playing field helps eliminate an incentive to build one or two large units on a residentially platted lot instead of several smaller units.

One- and two-unit residential development and three- to 11-unit residential development (or 12–16-unit Affordability Unlocked projects) that meets the above conditions will be required to comply with the following water quality regulations in Chapter 25-8, Subchapter A:

- Critical Water Quality Zone and floodplain modification requirements, for legal tracts or lots platted on or after May 18, 1986 and for development associated with boat docks, shoreline access, or shoreline modifications;
- Erosion and sedimentation control and overland flow standards;
- Cut and fill standards (applicable to properties outside of Urban watersheds);
- Requirements for clearing of vegetation, temporary storage, and topsoil protection;
- Requirements for development along Lake Austin, Lady Bird Lake, and Lake Water E. Long;
- Save Our Springs (SOS) requirements, as applicable (SOS applies in the Barton Springs Zone but includes some existing exemptions for one- and two-unit development); and
- Applicable municipal regulatory restrictions on a recorded plat or covenant.

The proposed amendments only modify the applicability of requirements in Chapter 25-8, Subchapter A, Water Quality. All other requirements that currently apply to one- and two-unit development or three- to 11-unit development would continue to apply, including drainage requirements in Chapter 25-7 and tree protection standards in Chapter 25-8, Subchapter B. However, the proposed amendments would allow qualifying three- to 11-unit development to go through a more streamlined review process as a “small project” site plan. The small project site plan designation allows the Development Services Department to waive submittal requirements, does not require notice to be sent to neighboring properties, and has lower fees and a faster review time than a standard site plan. Additionally, the “small project” site plan already exists as a process and therefore review disciplines can already be included in the review as needed without inventing a new process that does not have an existing application or established review fees.

The proposed code amendments are similar to the residential development regulations included in the LDC Revision. The maximum number of units (11, or 12/16 for Affordability Unlocked projects) is the same, but the maximum impervious cover is slightly lower (55 percent instead of 60 percent). The most significant difference is that this ordinance does not modify any drainage regulations for three to 11-unit development.

The City Council directs the City Manager to evaluate the effectiveness of existing Critical Water Quality Zone and Erosion Hazard Zone buffers on the Colorado River downstream of the Longhorn Dam and to propose protections that will provide adequate protections to the river that will ensure a healthy riparian corridor to stabilize the riverbank and protect property from erosion.

Under current code, the critical water quality zone (CWQZ) for the Colorado River is 200 to 400 feet wide, depending on the width of the 100-year floodplain. Erosion hazard zone analysis is required for any development within 100 feet of the Ordinary High Water Mark (OHWM) of the river. However, the banks of the Colorado River downstream of Longhorn Dam are very sandy and erosive. The critical water quality zone and erosion hazard zone analysis buffer are therefore not sufficiently protective to stabilize the riverbank and protect property from erosion.

Staff proposes to expand the CWQZ to a consistent width of 400 feet from the OHWM of the Colorado River downstream of Longhorn Dam. Staff also proposes to expand the erosion hazard zone analysis buffer to 400 feet from the OWHM. This means that if any development is proposed within the CWQZ, the applicant will also need to analyze the erosive potential of the banks and either relocate the proposed development or provide protective works if needed to ensure that it is protected from erosion. Additionally, staff proposes to limit the amount of stormwater discharge points directly to the Colorado River by requiring applicants to locate drainage outfalls upstream of the main stem of the Colorado River whenever possible.

Next Steps

If Council adopts the proposed code amendments, staff will make any necessary updates to the supporting technical criteria in the Environmental Criteria Manual. The only criteria changes that must go into effect immediately are the criteria for Functional Green, which are proposed to be adopted as an emergency rule concurrently with the code amendments. Most of the other criteria changes will either repeat or provide additional detail about how to apply the adopted code amendments. However, as mentioned above, staff plans to undertake a more comprehensive update of the criteria for green stormwater controls currently located in section 1.6.7 of the Environmental Criteria Manual. Examples of potential updates including requiring a saturated zone for biofiltration ponds and filtration-only rain gardens, which would increase stormwater infiltration, and modifying the planting requirements to increase plant survival and reduce maintenance costs. As mentioned above, the Watershed Protection Department (WPD) and Austin Water will also work together to develop criteria to allow a dual-function rainwater harvesting system that can provide potable water offset and receive a credit towards the water quality treatment volume.

In addition to criteria updates, WPD staff will work with partner departments on policy guidance for some of the code amendments. For example, WPD will work with Austin Water to formalize a shared understanding of what constitutes a “major replacement” of a water or wastewater line, and under what conditions WPD staff could support a variance to allow a new

or major replacement of a water or wastewater line in the inner half of the critical water quality zone.

Staff have also identified the need for additional clean up edits to the Landscape requirements, which are located in LDC Chapter 25-2 - Zoning. The recommendation from Law Department staff is that ultimately all Landscape requirements should be moved from Zoning into a new subchapter located in Chapter 25-8 - Environment. Staff propose that the new Functional Green requirements be located in this new subchapter and request direction from Council to return with a future code amendment to consolidate the remainder of the landscape code into the new subchapter.

Finally, staff will also be returning to Council with the additional items requested in Resolution No. 20220609-061. First, staff is preparing a memo to Mayor and Council regarding a proposed approach for the water quality monitoring and coordination on the repair of leaking wastewater pipes. This memo is scheduled to be released by September 15, as directed in the resolution. Second, staff is currently working on two additional code amendments initiated by the resolution – relating to drainage requirements for redevelopment and steep slope protections in Urban watersheds – which will return to Council at a later date. Finally, WPD is currently in the process of creating *Rain to River*, our department’s new strategic plan. Staff will prepare a memo to Mayor and Council in November with information about the planning process and how *Rain to River* will address the equitable protection of the environmental throughout Austin.

Staff Recommendation: Staff recommends approval of the proposed code amendments. Staff also recommends that either Planning Commission or City Council initiate code amendments that would allow staff to bring forth an ordinance to remove existing landscape requirements from Chapter 25-2 - Zoning and consolidate those requirements in a new Subchapter C in Chapter 25-8 - Environment along with the new Functional Green requirements. Additionally, Tier 2 Planned Unit Development superiority elements that are outlined in Title 25 Chapter 2 - Zoning should be updated in the near future to reflect updated GSI requirements and current best practices related to innovative design, climate resiliency, environmental justice, and other potential superiority elements that provide a more wholistic view of environmental superiority.

Board and Commission Actions:

August 17, 2022: The Codes and Ordinances Joint Committee discussed the proposed ordinance and took no action.

September 6, 2022: The Zoning and Platting Commission discussed the proposed ordinance and took no action.

September 7, 2022: The Environmental Commission discussed the proposed ordinance and postponed consideration until September 21, 2022.

September 13, 2022: Scheduled to go before the Planning Commission.

September 20, 2022: Scheduled to return to the Zoning and Platting Commission.

September 21, 2022: Scheduled to return to the Environmental Commission.

Council Action:

June 9, 2022: City Council approved Resolution No. 20220609-061, initiating amendments to Title 25 related to environmental, drainage, and landscape requirements.

Ordinance Number: N/A

City Staff: Liz Johnston, Deputy Environmental Officer, Watershed Protection Department

Phone: (512) 974-3217

Email: liz.johnston@austintexas.gov

Attachments:

- A Summary of Proposed Code Amendments
- B Fiscal Impact Analysis
- C Watershed Protection Department Equity Review, Summary, and Recommendations

Summary of Proposed Code Amendments Related to Resolution No. 20220609-061

Code Section		Type of Change	Current Status/Concern	Proposed Improvement	Benefits
Chapter 25-2, Zoning - Article 9, Landscaping					
1	25-2-1007 Parking Lots	Policy	Parking lot islands are typically surrounded by a 6" curb that prevents stormwater from flowing into the landscape area.	Require parking lot islands to have an edge-of-pavement treatment that allows overland flow of stormwater into the landscape area. Allow exceptions for areas that are not required to drain to a stormwater control and sites located in the Edwards Aquifer Recharge Zone.	Increases beneficial use of stormwater and reduces irrigation needs by directing stormwater into areas that are typically required to provide on-site irrigation.
2	25-2-1008 Irrigation Requirements	Policy	The existing requirement to irrigate 50% of the required landscape area with stormwater has proven problematic and difficult to implement.	Remove existing irrigation requirements and replace with simplified requirement to remove barriers to overland flow into parking lot islands (described above).	Simplified design requirements and reduced cost.
Chapter 25-2, Zoning - Article 13, Docks, Bulkheads, and Shoreline Access					
3	25-2-1179 Environmental Protection	Clarification	Bulkhead wave abatement requirements are currently located in the zoning chapter of the Land Development Code, which is inappropriate.	Move bulkhead construction requirements to Chapter 25-8, Subchapter A, Water Quality.	Improves review process and clarifies intent of regulations.
Chapter 25-5, Site Plans					
4	25-5-3 Small Projects	Policy	Small-scale multifamily residential projects must go through a longer, more expensive permitting process than single-family residential projects with the same percent impervious cover.	Allow multifamily residential projects with up to 11 units, or more if allowed under a qualifying Affordability Unlocked project, to follow the Small Project site plan process if they meet certain conditions.	Fewer review fees, faster review times, and no neighborhood notice requirement for qualifying small-scale multifamily residential projects.
Chapter 25-7, Drainage					

Summary of Proposed Code Amendments Related to Resolution No. 20220609-061

Code Section		Type of Change	Current Status/Concern	Proposed Improvement	Benefits
5	25-7-32 Director Authorized to Require Erosion Hazard Zone Analysis	Policy & Clarification	The current requirement to analyze the erosion hazard zone within 100' of the Colorado River downstream of Longhorn Dam is not sufficiently protective given the erodibility of the river bank.	Require erosion hazard zone analysis for development within 400' of the Colorado River downstream of Longhorn Dam. Clarify the WPD director's role in determining additional areas where an erosion hazard zone analysis must be performed.	Protects public infrastructure and private development from being damaged or destroyed by erosion.
Chapter 25-8, Environment					
6	25-8-1 Definitions	Clarification	Code sections that refer to the director of Planning and Development Review do not accurately reflect the role of the Environmental Officer, who is housed in the Watershed Protection Department (WPD) and works on behalf of the Director of WPD.	Change the default director reference from the Planning and Development Review Department to the Watershed Protection Department.	Reflects the Environmental Officer's role and current alignment within the Watershed Protection Department.
7	25-8-2 Description of Regulated Areas	Clarification	Existing language is not clear and does not reflect current status of online resources available to the public.	Clarify language to reflect where the public can find reference maps and reflect the change to the definition of director.	Clarity.

Summary of Proposed Code Amendments Related to Resolution No. 20220609-061

Code Section		Type of Change	Current Status/Concern	Proposed Improvement	Benefits
8	25-8-21 Applicability	Policy	Although many environmental regulations technically apply to single-family residential construction, they have not been consistently applied during the building permit process. Small-scale multifamily residential projects are subject to more regulations than single-family residential projects with similar impacts.	Clarify which environmental regulations apply to single-family residential construction and apply only those regulations to qualifying small-scale multifamily projects.	Staff will be able to provide clear guidance to residential owners and homebuilders regarding applicability of environmental regulations to their projects. Small-scale multifamily projects will be subject to the same requirements as single-family residential projects with similar impacts.
9	25-8-25 Redevelopment Exception in Urban and Suburban Watersheds	Policy & Clarifications	Current redevelopment exception standards are too restrictive regarding unpermitted development and too permissive regarding existing disturbance adjacent to waterways. Requirements related to vehicle trips and land use create barriers to projects that would otherwise be allowed by zoning.	Align language with the LDC Revision proposal. Require unpermitted development to be removed. Require existing impervious cover within a certain distance of a protected waterway to be removed and the area restored. Remove the vehicle trip limit and reference to a neighborhood plan. Reorganize and clarify language.	More projects would be able to use the redevelopment exception, which would result in improved water quality. Removing impervious cover immediately adjacent to a waterway would improve riparian habitat and water quality. Reorganization and wording changes improve clarity.
10	25-8-26 Redevelopment Exception in the Barton Springs Zone	Clarification	Current code uses the term "sedimentation/filtration pond" to refer to any water quality control that complies with Section 25-8-213.	Change the defined term from "sedimentation/filtration pond" to "standard pond" to clarify that green stormwater infrastructure can meet this requirement.	Clarity.

Summary of Proposed Code Amendments Related to Resolution No. 20220609-061

	Code Section	Type of Change	Current Status/Concern	Proposed Improvement	Benefits
11	25-8-27 Redevelopment Exception in the Water Supply Rural and Water Supply Suburban Watersheds	Policy & Clarifications	Current redevelopment exception standards are too restrictive regarding unpermitted development and too permissive regarding existing disturbance adjacent to waterways. Requirements related to dwelling units, vehicle trips, and land use create barriers to projects that would otherwise be allowed by zoning.	Align language with the LDC Revision proposal. Require unpermitted development to be removed. Require existing impervious cover within a certain distance of a protected waterway to be removed and the area restored. Remove requirement for Council approval based on dwelling units, vehicle trips, and land use.	More projects could use the redevelopment exception, which would result in improved water quality. Removing impervious cover immediately adjacent to a waterway would improve riparian habitat and water quality. Reorganization and wording changes improve clarity.
12	25-8-42 Administrative Variances	Policy & Minor Edits	The code sections allowed to be varied administratively by staff need to be updated for clarity and to reflect other proposed amendments.	Allow administrative variances for properties along Lake Austin. Allow administrative variances to allow a development to use conventional water quality ponds; to allow green stormwater infrastructure in the critical water quality zone (CWQZ); to allow driveways and private streets to cross a CWQZ; to allow residential construction in the CWQZ; and to allow cut or fill up to 8' for residential construction. Provide applicable conditions that must be met in order for staff to grant the proposed administrative variances.	Streamlines the review process and allows reasonable development that minimizes environmental impacts.

Summary of Proposed Code Amendments Related to Resolution No. 20220609-061

Code Section		Type of Change	Current Status/Concern	Proposed Improvement	Benefits
13	25-8-62 Net Site Area	Clarification	Existing language is not clear.	Clarify that net site area excludes areas designated for surface or subsurface wastewater irrigation.	Clarifies existing policy.
14	25-8-63 Impervious Cover Calculations	Minor Edits	Rainwater harvesting cisterns are considered impervious cover. Calculation of impervious cover does not align with residential review processes.	Remove rainwater harvesting cisterns from impervious cover calculations. Clarify when eaves, overhangs, balconies, etc. are considered impervious cover for residential building permits.	Removes disincentive to install rainwater harvesting cisterns. Improves consistencies between review departments.
15	25-8-64 Impervious Cover Assumptions	Clarification	Current code does not clearly require an applicant to demonstrate the buildability of subdivided lots.	Align language with the LDC Revision proposal. Require subdivision applicants to submit a buildability exhibit.	Protects future homebuilders by ensuring that platted lots can be developed in compliance with environmental regulations.
16	25-8-92 Critical Water Quality Zones Established	Policy & Clarification	The width of the critical water quality zone (CWQZ) setback along the Colorado River is not sufficiently protective. Existing language that exempts roadside ditches from CWQZs is not clear.	Increase the width of the CWQZ along the Colorado River downstream of Longhorn Dam from 200-400' to 400'. Clarify language that exempts roadside ditches from CWQZ requirements.	Provides greater protection of the Colorado River downstream of the Longhorn dam. Provides greater clarity regarding the intent of the roadside ditch exemption.
17	25-8-121 Environmental Resource Inventory Requirement	Minor Edits	The current environmental resource inventory (ERI) triggers do not accurately reflect whether Critical Environmental Features (CEFs) are likely to be present on a property.	Remove requirement to prepare ERIs in areas where CEFs are not more likely to be encountered, and require ERIs when they are.	Removes ERI waiver requirement for certain properties and clarifies the need for an ERI when CEFs are more likely to be present.

Summary of Proposed Code Amendments Related to Resolution No. 20220609-061

Code Section		Type of Change	Current Status/Concern	Proposed Improvement	Benefits
18	25-8-182 Development Completion	Clarification	Reference to Planning and Development Review Department does not accurately reflect the current process.	Update reference to the Watershed Protection Department.	Reflects the Environmental Officer's current alignment within the Watershed Protection Department and the change to the definition of director.
19	25-8-184 Additional Erosion and Sedimentation Control Requirements in the Barton Springs Zone	Clarification	Reference to Planning and Development Review Department does not accurately reflect the current process.	Update reference to the Watershed Protection Department.	Reflects the Environmental Officer's current alignment within the Watershed Protection Department and the change to the definition of director.
20	25-8-185 Overland Flow	Policy & Clarification	The intent of the overland flow section is to maintain infiltration and recharge of all waterbodies, not just seeps and springs. Overland flow should be directed to landscaped areas where possible in order to increase infiltration and reduce the need for irrigation of landscape areas.	Require stormwater to be directed to landscape areas when feasible. Update existing requirement to maintain infiltration and recharge to include waterways.	Increases infiltration, recharge, and beneficial use of stormwater. Clarifies the intent behind the need to maintain overland flow.

Summary of Proposed Code Amendments Related to Resolution No. 20220609-061

Code Section		Type of Change	Current Status/Concern	Proposed Improvement	Benefits
21	25-8-213 Water Quality Control Standards	Policy & Clarification	Development is allowed but generally not required to use green stormwater infrastructure (GSI) to provide water quality treatment.	Require most development to use GSI (e.g., rain gardens, biofiltration, and other green controls prescribed in the ECM) to provide required water quality treatment. Allow exceptions for highly polluting land uses, regional ponds, and sites with more than 90% impervious cover. Clarify existing load reduction standards and liner requirements.	Increases infiltration, recharge, and beneficial use of stormwater. Provides additional ecosystem services and enhanced aesthetic benefits of stormwater control measures so that they can more seamlessly tie into open space areas available to end users.
22	25-8-214 Optional Payment Instead of Structural Controls in Urban Watersheds	Clarification	Language is outdated.	Change Environmental Board to Environmental Commission and update language to match current process.	Clarity.
23	25-8-232 Dedicated Fund	Clarification	Language does not reflect the new definition of director (used without a qualifier).	Add reference to Development Services Department.	Clarity.
24	25-8-233 Barton Springs Zone Operating Permit	Clarification	Reference to Planning and Development Review Department does not accurately reflect the current process.	Update reference to the Watershed Protection Department.	Reflects the Environmental Officer's current alignment within the Watershed Protection Department and the change to the definition of director.

Summary of Proposed Code Amendments Related to Resolution No. 20220609-061

	Code Section	Type of Change	Current Status/Concern	Proposed Improvement	Benefits
25	25-8-261(B), (C), (E), (G), and (H) Critical Water Quality Zone Development	Minor Edits & Clarifications	Lakefront development requirements are not included in the critical water quality zone (CWQZ) code section. The Colorado River is not sufficiently protected. Existing language regarding floodplain modification is not clear.	Consolidate environmental protections that specifically apply to the lakes into the CWQZ section. Include Lake Walter E. Long in code related to lakes. Update the minimum distance some types of development must be from the Colorado River to 200' instead of 100' to reflect the wider CWQZ proposed in Section 25-8-92. Clarify floodplain modification requirements.	Improves clarity and organization. Provides greater protection of the Colorado River downstream of Longhorn Dam.
26	25-8-261(D) and (F) Critical Water Quality Zone Development	Clarification & Policy	Existing requirements related to utilities are not clear. Allowing in-channel detention ponds and wet ponds creates significant disturbance to a creek and existing requirements are not sufficiently protective.	Clarify that requirements for utility lines also apply to utility easements and major replacements of an existing line. Allow additional flexibility if a utility line is installed with boring or tunneling, as currently described in the Environmental Criteria Manual. Require that stormwater outfalls minimize disturbance to the bank of the Colorado River. Only allow in-channel detention basins and in-channel wet ponds proposed as part of a public project or public-private partnership.	Improves clarity and provides greater protection for creeks and the Colorado River.

Summary of Proposed Code Amendments Related to Resolution No. 20220609-061

Code Section		Type of Change	Current Status/Concern	Proposed Improvement	Benefits
27	25-8-262 Critical Water Quality Zone Mobility Crossings	Clarification	Existing language does not reflect the new street classifications in the Austin Strategic Mobility Plan (ASMP). Trail crossing requirements are not clear.	Update street classifications to reflect the ASMP. Clarify that multi-use trails must comply with the ECM and existing no adverse impact standards.	Clarity.
28	25-8-364 Floodplain Modification (New section: 25-8-263)	Clarification	Floodplain modification requirements are often confusing.	Relocate the floodplain modification section to follow critical water quality zone requirements, as proposed in the LDC Revision. Rename the division for clarity. Reorganize and reword floodplain modification requirements for clarity.	Clarity.
29	25-8-281 Critical Environmental Features	Minor Edits & Clarifications	Critical environmental feature (CEF) buffers are not adequately protected on residential lots. Requirements for innovative runoff management practices are not clear. Subdivision requirements are not clear.	Clarify that residential lots may not include a CEF buffer. Clarify what types of innovative runoff management practices are allowed within 50' of a CEF. Clarify when CEF and buffer locations must be shown on development applications.	Improves protection for CEFs and clarity for applicants and staff.
30	25-8-282 Wetland Protection	Policy & Minor Edit	Wetlands associated with the shores of Lady Bird Lake are not protected in the downtown area. There are no existing design criteria that would allow a wetland to be used as a water quality control.	Protect all wetlands along the shores of Lady Bird Lake, including in the downtown area. Clarify that a wetland cannot be used as a water quality control. Clarify review and approval authority.	Improves water quality of Lady Bird Lake. Clarity.

Summary of Proposed Code Amendments Related to Resolution No. 20220609-061

Code Section	Type of Change	Current Status/Concern	Proposed Improvement	Benefits
31 25-8-323 Temporary Storage Areas; Topsoil Protection	Policy	Soils compacted by construction activity do not provide sufficient infiltration of stormwater.	Decompaction requirements added to code requirements. Require areas that are intended to remain pervious to be protected during construction or decompacted after construction.	Improves infiltration of stormwater by ensuring that pervious areas are functioning as intended.
32 25-8-341 Cut Requirements	Minor Edits	Driveways that are allowed to cross slopes pursuant to 25-8-301 typically also require cut over 4'.	Allow cut up to 8' for construction of a street or driveway necessary to provide primary access if the cut is the minimum necessary to comply with safety requirements.	Improves consistency among code requirements. Streamlines the application process by eliminating a common variance request.
33 25-8-342 Fill Requirements	Minor Edits	Driveways that are allowed to cross slopes pursuant to 25-8-301 typically also require fill over 4'.	Allow fill up to 8' for construction of a street or driveway necessary to provide primary access if the fill is the minimum necessary to comply with safety requirements.	Improves consistency among code requirements. Streamlines the application process by eliminating a common variance request.
34 25-8-367 Relocation of Shoreline Between Tom Miller Dam and Longhorn Dam	Minor Edits	This section was written to protect drinking water supply, dam operations, and recreation on Lady Bird Lake and is not related to water quality protection. It is no longer necessary.	Remove section.	Removes unnecessary requirements and increases permitting efficiency for some projects.
35 25-8-368 Restrictions on Development Impacting Lake Austin, Lady Bird Lake, and Walter E. Long	Clarification	The location of these requirements is confusing and difficult to find.	Move this section to be adjacent to the critical water quality zone requirements for lakefront development.	Clarity.

Summary of Proposed Code Amendments Related to Resolution No. 20220609-061

	Code Section	Type of Change	Current Status/Concern	Proposed Improvement	Benefits
36	Chapter 25-8, Subchapter B, Article 2 Endangered Species	Clarification	The endangered species notification requirements are confusing and inefficient.	Streamline and clarify when an applicant must notify other jurisdictions about potential impacts to endangered species habitat.	Clarity.
37	<i>New subchapter:</i> Chapter 25-8, Subchapter C Functional Green	Policy	Sites with high impervious cover have few landscape requirements and therefore provide minimal ecosystem services.	Create a new approach to landscape requirements to provide ecosystem services in highly urbanized locations.	Landscape requirements are calibrated to provide ecosystem services in highly urbanized locations.

Fiscal Impact Analysis of Proposed Code Amendments

Background

City Council Resolution No. 20220609-061 initiated Land Development Code amendments related to environmental, drainage, and landscape requirements. The resolution also directed staff to conduct a Fiscal Impact Analysis for each proposed code or process change and to address the potential costs of taking no action, or not adopting the proposed code amendments.

The potential fiscal impact and cost of taking no action for each initiated code amendment is provided below. (For a summary of the proposed amendments, please see the Ordinance Amendment Review Sheet and Attachment B.)

1. Establish criteria that prioritize when green stormwater methods should be required or incentivized over conventional stormwater controls;

Fiscal Impact Analysis

The proposed code amendments would require most sites to use green stormwater infrastructure, or GSI, to meet water quality treatment requirements. The controls that constitute GSI are listed in Section 1.6.7 of the Environmental Criteria Manual, which includes biofiltration systems. This analysis assumes that most private development will choose to comply with the GSI requirement using biofiltration systems, as they are the most cost-effective and space-efficient of the green controls.

Biofiltration systems are similar to sedimentation/filtration systems in design and footprint area, with the primary difference being the inclusion of plants in the filtration basin of the control. These plants enhance the removal of pollutants and provide valuable ecosystem services such as climate change resilience, carbon sequestration, improved air quality, enhanced biodiversity, and urban heat island mitigation. The projected fiscal impact is primarily driven by the need to review, inspect, and maintain these planted systems.

Impact to City Staffing

Stormwater ponds that serve residential subdivisions are inspected and maintained by the City of Austin Watershed Protection Department (WPD). Ponds that serve multifamily and commercial development are inspected by WPD and maintained by the property owner. All ponds maintained by the City of Austin must comply with criteria requiring turf grass or groundcover instead of more intensely planted systems. Residential subdivisions have the option to install more intense plantings but are responsible for all additional vegetation maintenance. This provision limits the impact on WPD Field Operations directly resulting from this proposed code change.

There is, however, a need for WPD to hire at least one additional vegetation maintenance crew, which is comprised of a supervisor and four full-time employees. WPD currently has one vegetation maintenance crew; adding a second is necessary to address existing capacity issues, support future criteria updates, and ensure the continued success of the City's overall GSI program. WPD uses its capital improvement projects as an opportunity to learn best practices about how to build and maintain GSI in a cost-effective manner, which then informs criteria updates for private development. A second vegetation maintenance crew will allow WPD to provide a higher level of service to the GSI controls that the department does maintain, which will help sustain the benefits provided by GSI. Adding a second crew might also enable WPD to support more densely planted controls for residential subdivisions, which would increase the benefits provided by the controls.

WPD is also proposing to create a new position to train staff and external stakeholders on how to maintain green stormwater controls. The planting requirements for GSI require different maintenance practices than conventional controls. In order to increase plant survival and help the development community adapt to this change, this new position would be responsible for sharing best practices with the development community through training and outreach.

Finally, the Development Services Department (DSD) reviews development applications and inspects sites to ensure compliance with City of Austin code and criteria. DSD reviews and inspects all water quality ponds associated with new development and redevelopment. This code change will have an incremental impact on the time required to perform each review and inspection, but it is not expected to increase the staffing needs of the impacted working groups.

While it is likely that private development will choose to comply with this requirement using biofiltration systems, there is a potential for this change to result in a shift to other forms of GSI like rain gardens or rainwater harvesting. It may be necessary to add review and inspection staff in the future, because the use of rain gardens instead of biofiltration tends to result in multiple controls per site. This increase could result from interactions with other code requirements, like Functional Green, that incentivize the use of other types of stormwater controls. It is also possible that certain site conditions will lead applicants to consider more distributed approaches for meeting their water quality requirements.

A shift from sedimentation/filtration systems to rain gardens, rather than biofiltration systems, would increase the total number of controls to be reviewed and inspected. To account for this potential, we have included two impact scenarios in the table below. The 'Impact of Increased Rain Gardens' scenario assumes a portion of applicants will choose to use more distributed stormwater controls, like rain gardens, instead of a single biofilter, resulting in a 50 percent increase in the total number of water quality ponds.

Table 1 – Summary of Fiscal Impacts by Work Group

Work Group	Impact of Biofiltration	Impact of Increased Rain Gardens
Watershed Protection		
Field Operations Division	Moderate impact. Propose to create new FTE position responsible for training internal staff and external stakeholders best maintenance practices for GSI.	No change.
Pond Maintenance and Vegetation Crews	Minimal impact. There is minimal difference in the maintenance requirements of biofiltration ponds with turf grass compared to sedimentation/filtration systems. However, there is a large FTE staffing need related to the maintenance of current and future green stormwater controls built as part of the City's Capital Improvement Program.	No change.

Pond Inspection and Dam Safety	Minimal impact. This change will marginally increase inspection times for planted systems but will not impact overall staffing needs.	Moderate impact. An increase in the number of controls per site will increased the annual volume of inspections since there will be more controls to inspect for each site plan. This will be monitored and staffing needs will continue to be evaluated.
Development Services		
Water Quality Review	Minimal impact. This change will marginally increase review times but will not impact overall staffing needs.	Moderate impact. An increase in the number of controls per site will increased the annual volume of reviews since there will be more controls to review for each site plan. This will be monitored and staffing needs will continue to be evaluated.
DSD Inspections	No impact.	Minimal impact. An increase in the number of controls per site will increased the annual volume of inspections since there will be more controls to inspect for each site plan. This will be monitored and staffing needs will continue to be evaluated.

Impact to City Projects

The City of Austin has been a national leader in incorporation of GSI into its Capital Improvement Program. In 2007, City Council passed a resolution (Resolution No. 20071129-046) requiring City buildings and associated site development to maximize opportunities to include GSI to meet water quality requirements. In 2014, Austin City Council adopted a Complete Streets Policy that directs transportation projects to use green streets practices that "[incorporate] landscape, stormwater controls, and sustainability elements to improve ecological and human health." Since the Complete Streets Policy was adopted, over 25 rain gardens have been installed with mobility projects.

Since the City of Austin has led by example and prioritized the use of GSI in its own projects, the proposed changes will have minimal impact to the cost of City capital improvement projects compared to current conditions. However, as new green stormwater controls continue to be constructed with new City facilities and mobility projects, these controls will need ongoing vegetation and periodic functional maintenance by the Watershed Protection Department or other City departments. For this reason, it is necessary to consider the long-term maintenance needs of the City's current and future GSI portfolio. (See *Impact to City Staffing*, above.)

Cost of No Action

A wide variety of sources agree that the green controls promoted by this ordinance provide tangible community benefits. Biofiltration systems and other vegetated controls like rain gardens can sequester carbon, mitigate urban heat island effects, and benefit the mental and physical health of our community. Many of these ecosystem benefits are directly related to the intensity of plantings within the control area.

Human Health Benefits

Research has documented benefits of urban greenspace on human health and well-being, including positive effects on anxiety and mood. Simply having views of outdoor green space has been shown to reduce stress. Additionally, studies have also shown that greener urban settings can reduce adult depression. The presence of nature in and around the places in our everyday lives provides a valuable restorative experience. In addition to mental health benefits, access to nature and green infrastructure in cities has been shown to reduce rates of asthma, cardiovascular disease, obesity, diabetes, high blood pressure, and pregnancy complications.

Urban Heat Island

Trees and plants keep temperatures cooler by providing shade, deflecting solar radiation, and evapotranspiring moisture into the atmosphere. Buildings and pavement displace these natural cooling processes by retaining heat and using air conditioning that increases the surrounding air temperature. This creates an ‘urban heat island’ where daytime temperatures can be up to seven degrees higher than nearby rural areas. Vegetated ponds reduce this effect.

Carbon Sequestration

Biofilters can contribute to carbon sequestration and atmospheric carbon dioxide reduction by fostering perennial vegetation. Even small areas of herbaceous cover can store carbon, which can increase substantially as the system ages (i.e., 3.34 kg carbon per square meter after 21 years).

Data

Table 2 – FTE Impact Table

	Impacted Work Group			
	DSD - WQ Review	DSD - Inspections	WPD - Pond Maintenance	WPD - Pond Inspections
Annual Volume of New Biofilter Sites	50	50	4	50
Annual Volume of New Planted Biofilter Sites	43	43	0	14
Additional Volume High RG Scenario	25	25	0	25
Current Time Per Site (Hours)	1.0	0.7	48.0	0.5
Additional Time Per Planted Site	10%	0%	100%	50%
Additional Time Per Year (Hours)	4.3	0.0	0.0	3.6
Additional Time Per Year High RG (Hours)	31.8	17.0	0.0	22.3

- 2. Require surface parking lot stormwater to enter pervious parking lot islands, landscaped medians, and perimeter landscapes as a method of water quality and require that pavement be graded to allow runoff to enter planting areas;**

Fiscal Impact Analysis

Due to the existing requirements for partial stormwater irrigation of landscape areas found in LDC 25-2-1008, Development Review Department Environmental Review staff already conducts a high-level review of stormwater conveyance in parking lots to check for compliance with 25-2-1008. The proposed code change removes this existing stormwater irrigation requirement, which in turn will remove the requirement that applicants provide the required landscape area and stormwater percentage calculations that are needed to demonstrate compliance with existing requirements. The proposed code

change will significantly simplify the review process, and will eliminate the need for landscape architects to fill out the Innovative Water Management table found in ECM Appendix C. Therefore this code change will have a neutral or positive effect on both staff and applicant's time. No additional staff are anticipated with this code change.

Cost of No Action

The intent of this amendment is to require that applicants disconnect stormwater in order to achieve better infiltration of stormwater into the ground, thus reducing run-off, allowing more stormwater to become available to support plant life, reducing the urban heat island effect, and capturing pollutants before entering a pipe where they will flow to a water quality pond and then be discharged to a receiving water body. The Watershed Protection Department has promoted disconnected stormwater since at least 2010, when the original Innovative Water Management code requirement was put forth. This code change takes that original requirement a step further, while simplifying the review process.

3. Implement Functional Green requirements for properties with more than 80% allowable impervious cover;

Fiscal Impact Analysis

The new requirement for Functional Green Landscape is expected to increase review and inspection times, at least temporarily. Staff anticipates an increase of 46 hours per month for DSD Environmental Review (approximately one FTE) and at least 15 hours per month for DSD Environmental Inspection (approximately one-third of an FTE). Inspection times for DSD Environmental Inspection will increase beyond that if many projects opt for rain gardens, which can require multiple additional hours to inspect.

Data

Calculations for additional review and inspection time are based on the following assumptions.

1. 5% of site plan permit applications are expected to be redevelopment exception projects that would have IC > 80%.
2. 10% of site plan permit applications are expected to be urban projects that would have IC > 80%.
3. 156 site plan permit applications per month (average calculated from Microstrategy dashboard data for October 2019 through July 2022).
4. Review: 2 hours of additional review expected per project (1 hour for the first submittal; 30 minutes each for two subsequent submittals). This additional time is expected to decrease as reviewers and applicants learn the new requirements.
5. Inspection: 0.63 additional hours for each landscape inspection. This additional time is expected to decrease as inspectors and contractors learn the new requirements.

Cost of No Action

A wide variety of sources agree that greener urban design standards, even for densely developed sites, promote a wide range of ecosystem services that enhance the quality of life for urban residents. Features proposed as a part of Functional Green will help to mitigate urban heat island effects, benefit the mental and physical health of our community, promote biodiversity conservation and wildlife habitat – critical to sustaining our regional food web, conserve potable water, and provide more aesthetically pleasing landscapes in cities.

Urban Heat Island

Trees and plants keep temperatures cooler by providing shade, deflecting solar radiation, and evapotranspiring moisture into the atmosphere. Buildings and pavement displace these natural cooling processes by retaining heat and using air conditioning that increases the surrounding air temperature. This creates an 'urban heat island' where daytime temperatures can be up to seven degrees higher than nearby rural areas. Vegetated ponds reduce this effect.

Human Health Benefits

Research has documented benefits of urban greenspace on human health and well-being, including positive effects on anxiety and mood. Simply having views of the outdoors has been shown to reduce stress. Additionally, studies have also shown that greener urban settings can reduce adult depression. The presence of nature in and around the places in our everyday lives provides a valuable restorative experience. In addition to mental health benefits, access to nature and green infrastructure in cities has been shown to reduce rates of asthma, cardiovascular disease, obesity, diabetes, high blood pressure, and pregnancy complications.

Biodiversity Conservation and Wildlife Habitat

Studies show that even small patches of urban wildlife habitat have a measurable impact on promoting larger ecosystem services and in providing refuge for urban species. Additionally, planting diverse native and adapted species as proposed in functional green promotes regional biodiversity efforts critical to supporting the full trophic web and our regional food production systems.

Water Conservation

Provisions in Functional Green including native plantings and cisterns promote reduced potable water use. Native and climate-adapted plantings require less water for irrigation and are more likely to survive drought scenarios. Cisterns can be used to provide water for irrigation needs for much of the calendar year.

4. Require that all subdivisions and site plans in Urban Watersheds meet steep slope protections;

The Council resolution directed staff to engage stakeholders about this proposed amendment and to return to Council for consideration in November. Therefore, no code amendments are proposed at this time and will instead be proposed at a later date.

5. Allow cisterns to be sized beyond the required storm capture amount and remove requirement for stormwater release so that they can supply irrigation needs throughout the year;

The Land Development Code and Environmental Criteria Manual currently allow cisterns to be sized beyond the required storm capture amount, and there is no requirement that the additional volume be released in 48 to 72 hours. Therefore, no code amendments are proposed at this time.

6. Require new and redeveloped projects to use greenfield conditions as a baseline when calculating drainage requirements;

The Council resolution directed staff to engage stakeholders about this proposed amendment and to return to Council for consideration in November. Therefore, no code amendments are proposed at this time and will instead be proposed at a later date.

7. Prohibit in-channel detention ponds, except for capital projects or private/public partnerships where no other alternative is feasible;

Fiscal Impact Analysis

Prohibiting the use of in-channel detention ponds and in-channel wet ponds would have a neutral to positive impact on City staffing. Under current code, in-channel ponds require complex sediment transport modeling, which is time consuming to explain to applicants and review. Limiting the use of in-channel ponds would therefore decrease the review time for the few projects per year that currently propose in-channel ponds. Additional staff time would be required for projects that request a variance from the new provision, but variances are likely to be very rare so the impact would be minimal. Additionally, there have been variance requests for additional grading necessary to allow in-channel detention ponds in the past and the potential for future grading variances is high due to the inability for staff to grant administrative variances for grading in excess of the allowable amount adjacent to waterways. Processing Land Use Commission variances has a significant effect on staff time. The proposed code amendment would still allow the City to construct in-channel ponds if truly necessary, so there would be no potential cost impacts to City projects.

Cost of No Action

Constructing in-channel detention ponds and in-channel wet ponds creates significant disturbance to a creek and the adjacent riparian habitat. Continuing to allow these ponds could result in significant erosion, decreased water quality, and loss of habitat.

8. Require projects to relocate replaced or upsized wastewater pipes outside of the inner half of the critical water quality zone;

Fiscal Impact Analysis

Existing stream buffer code protections do not allow utility lines to be placed in the inner half of the critical water quality zones (CWQZs) of urban or suburban watersheds, and do not allow any utility lines in the CWQZs within the Drinking Water Protection Zone watersheds. Although there is a higher potential for negative environmental impacts from wastewater lines specifically, the code already prohibits all utility lines from being located in the inner half. Staff's recommendation is to clarify that this prohibition extends to major replacements of existing utility lines. Because the recommended code change is only a clarification to existing policy, the proposed code change will have a neutral effect on City projects.

Cost of No Action

The clarification will provide guidance to project managers and design engineers proposing new or major replacements of existing utility lines. Without this change there will continue to be a gray area related to major replacements of existing lines, which would allow future conflicts to persist related to the preferred location of utility lines that are proposed to be replaced entirely or enlarged to receive additional wastewater. These conflicts have resulted in denied Land Use Commission variances in the past, causing delay and additional cost to both Austin Water utility staff and their projects, and to Environmental Review staff tasked with reviewing the projects for compliance with the LDC.

9. Provide wetland protections and buffers equally along Lady Bird Lake to help to stabilize and prevent erosion along the shoreline;

Fiscal Impact Analysis

The proposed code amendment would extend wetland protections to wetlands along Lady Bird Lake between Lamar Boulevard and I-35. This would result in a small number of additional wetland reviews, but it is not expected to increase the staffing needs of the impacted working groups. The proposed change would apply to City projects along the lake, but the existing code provides several protection methods for wetlands. Much of the area that will have wetland protections is City of Austin parkland. While City projects should follow best practice for development along the lake and provide wetland mitigation for impacts, current code does not specifically require wetland mitigation for City projects. Therefore, there could be some additional cost to City parkland projects that are proposed to occur within 150 feet of a shoreline wetland. Lakefront wetland mitigation typically consists of protective methods to avoid direct impacts to wetland vegetation and enhancement of the wetland fringe by additional planting. While this cost is not typically sufficient to cause delays to the project, there could be additional permitting time and construction cost associated with meeting wetland mitigation requirements.

Cost of No Action

If the proposed amendment is not adopted, wetlands along Lady Bird Lake can continue to be removed or negatively impacted by private and public development. This would result in decreased water quality and loss of wetland habitat to one of the most significant outdoor spaces in the City of Austin.

10. Require utility easements to meet the same standards as utility pipes within the creeks and creek buffers; and

Fiscal Impact Analysis

The requirement that utility easements meet the same standards as utility pipes within creeks will help encourage project managers and design engineers secure easements in locations that will allow future utility lines to be constructed without the need to seek Land Use Commission variances. Land Use Commission variances are never guaranteed, and therefore it is less risky to secure easements in administratively supportable locations so that projects are not forced to redesign after the design process has been completed during the review process. However, securing easements in land located further away from creek centerlines may be more difficult to obtain and more costly, so there could be additional up front costs to new utility projects.

Cost of No Action

Leaking utility infrastructure has negative environmental and public safety consequences to waterways. Water line breaks in creeks can result in fish kills that must be reported to the Texas Commission on Environmental Quality. Wastewater line leaks can result in high bacteria levels that cause waterways to be dangerous to the public. Additionally, utility lines in creeks can be difficult to access without large access drives that will negatively affect the riparian functioning of the land adjacent to the creek, resulting in degraded water quality, bank erosion, lack of wildlife habitat, and less natural open space available to the public. However, Austin Water staff have expressed concern that the resultant need for additional lift stations may also have negative environmental effects from spills.

11. Address current environmental code inconsistencies and other minor code revisions in Chapters 25-7 and 25-8 that staff have previously identified and reviewed as part of the Code Next and the Land Development Code revision processes.

Fiscal Impact Analysis

Staff are proposing a variety of minor code amendments that were previously included in the LDC Revision. Most of the proposed amendments are clarifications of existing code requirements, which will decrease the amount of staff time needed for development review and have no impact on the cost of City projects. A few of the minor code amendments do change the existing code requirements; these are categorized as “policy” or “minor edits” in the summary of proposed amendments provided in Attachment B. However, all of the minor edits that change existing code requirements have either a positive or neutral impact on review time and project cost. None of the proposed minor amendments will require additional staff or increase City project costs.

Cost of No Action

The minor code amendments clarify and streamline existing code requirements. Not adopting these provisions would result in applicants and staff spending more time on the permitting process.

12. The initiated ordinances will ensure that, for the same environmental impact as a single-family home, the City does not disincentivize small-scale missing middle housing projects.

Fiscal Impact Analysis

The proposed code amendments aim to clarify which of the environmental code requirements apply to one- and two-unit residential projects and to qualifying missing middle projects that will be eligible for a streamlined review process. Therefore there will likely be impacts to Environmental Review staff housed in the Development Services Department who will be tasked with determining whether or not some one- or two-unit residential projects comply with environmental regulations that are not currently reviewed during the building permit process. Staff time will be needed to develop a process for streamlining this review so that DSD Environmental Review staff are only brought in when necessary.

The proposed small project site plan process for missing middle projects could incentivize some residential projects to shift from one- or two-unit projects to larger scale projects of up to eleven units. Therefore there could be a shift of review staff burden from residential review staff to the review staff who are involved in the site plan review process.

Cost of No Action

While watershed regulations are not the primary reason why there is a lack of missing middle projects in the City of Austin, they are one of many regulatory burdens that place additional cost on such projects, which may drive developers to propose one- or two-unit residential projects that are not subject to water quality requirements rather than projects with additional units. The proposed small project site plan proposal for missing middle projects would establish a process by which certain missing middle projects could take advantage of fewer regulations and a more streamlined process, thereby helping the City achieve its goals of allowing additional housing types within the urban core. Without this change all projects that propose three or more units will have to follow the full site plan review process with the same water quality requirements as all other multi-family or commercial developments. Additionally, the code will continue to be unclear with regards to the applicable environmental code requirements for single-family building permits.

13. The City Council directs the City Manager to evaluate the effectiveness of existing Critical Water Quality Zone and Erosion Hazard Zone buffers on the Colorado River downstream of the Longhorn Dam and to propose protections that will provide adequate protections to the river that will ensure a healthy riparian corridor to stabilize the riverbank and protect property from erosion.

Fiscal Impact Analysis

The Colorado River downstream of Longhorn Dam is an invaluable and irreplaceable environmental and cultural resource. Unlike Lady Bird Lake and Lake Austin, the Colorado River downstream of Longhorn Dam is not a reservoir with a constant level. It is a mobile and dynamic waterway that meanders through highly erosive alluvial soils. By promoting healthy trees and vegetation along the river corridor and allowing the river adequate space to migrate over time, the proposed code changes will enhance water quality, help reduce erosion and property loss, and provide multiple community benefits.

Impact to City Staffing

Changing the trigger for an erosion hazard zone analysis from 100 feet to 400 feet will likely increase the total amount of review time for sites where this requirement applies since additional types of uses in the outer half of the Critical Water Quality Zone will now require an analysis. However, it is difficult to quantify the increase in staff time since it will largely depend on the proposed construction and whether additional steps for review (e.g., Level 2 analysis, protective works, slope stabilization) are necessary.

Impact to City Projects

Since the new code would also increase the size of the Critical Water Quality Zone (CWQZ) to a standard 400 feet for the entire length of the Colorado River downstream from Longhorn Dam, most erosion hazard zone analyses would be for the uses that are permitted within the CWQZ. However, the proposed code change means an analysis would be triggered for more types of uses that are only allowed in the outer half of the CWQZ (e.g., multi-use trails, park facilities, wastewater lines, green stormwater ponds). Capital improvement projects proposing these types of uses within the CWQZ will have to include an erosion hazard analysis within their planning and design to ensure that the proposed improvements are located outside the erosion hazard zone or protective works are provided. However, the EHZ analysis is a desktop exercise using simple geometric calculations and utilizes data that is typically already gathered by the engineer in the site design process (e.g., hydrologic and hydraulic models, surveyed cross-sections, topographic data). In addition, it is in the best interest of all City departments to locate or protect infrastructure such that it does not become endangered by erosion. In doing so, the City saves money by not needing to repair, relocate, or protect public infrastructure.

Cost of No Action

Not adopting additional protections for the Colorado River downstream of Longhorn Dam will result in less preservation of healthy soils, trees, and vegetation along the river corridor as well as a greater risk of water quality degradation over time. In addition, more structures and infrastructure will potentially be threatened by future erosion. Designing and constructing stabilization projects along the Colorado River is incredibly complex and often prohibitively expensive. As an example, the October 2015 flood event caused significant bank erosion along the Colorado River and undermined the raw water intake for the Sand Hill Energy Center as well as Fallwell Lane—the primary access route to Sand Hill and the South Austin Regional Wastewater Treatment Plant. Stabilizing the bank of the Colorado River to protect the Austin Energy substation and Fallwell Lane is estimated to cost \$9 million. The proposed code changes will reduce the long-term financial burden on the City as well as private property owners by requiring new development to account for potential future erosion and safeguard valuable resources.

Equity Response, Summary, and Recommendations

2022 Environmental Code Amendments

A Technical Assistance Group (TAG) was assembled with a diverse staff including members from the Equity Coordination Team, cross-organizational Equity and Inclusion Program Managers from within and outside of the Watershed Protection Department, City of Austin Environmental Officer and Deputy, and Watershed Protection Department (WPD) planning and policy staff. This TAG was tasked to engage in evaluation and discussion regarding the proposed environmental code amendments requested from City council. Given the time constraints provided for this evaluation, a thorough equity assessment was not feasible to complete using the Government Alliance for Racial Equity (GARE) model; however, through workshop discussions, this document will present discussion points, recommendations, and points of consideration for additional evaluation.

The code amendments, while subject to many reviews and revisions, had previously elicited feedback and received positive support from community and environmental stakeholders. This was a supportive factor to the discussion and continued pro-active transparency and engagement with community, as well as internal equity assessments, would be recommended and supported for future amendment requests. **The consensus of the work group was that the amendments offered potentially positive community impacts with unknown affordability concerns that could pose potential unintended consequences. Based on information provided in the working sessions, the TAG supported moving forward with the amendments with conditions. Details of these recommendations are listed below.**

Throughout the workshop discussion, many concerns were raised regarding unknown cost burdens of many of the amendments in alignment with affordability and displacement. TAG members were advised that an affordability impact statement as well as a fiscal impact analysis were being developed concurrently. To explore the potential unintended burdens and negative impacts to community, further collaborative analysis of equity and affordability should be done. This analysis should also distinguish between costs to deeply affordable housing that are meant to increase permanence to vulnerable communities versus market rate developments. Lastly, consideration should be given to how to quantify displacement risk as a cost.

Planning staff indicated that the proposal includes amendments that promote environmental improvements, including those related to green stormwater infrastructure and wastewater line location requirements, that provide probable community health benefits. A summary of the potential benefits to human and environmental health is included in the WPD Fiscal Impact Analysis, underway at the time of this review. In order to meaningfully evaluate for equity impacts it is imperative to include any potential health-related impacts. Communities of color and low-income communities have been shown to have disproportionately worse physical, mental, and environmental health outcomes compared to other communities. It will be important to promote strategies that can improve health-related quality of life outcomes while identifying mitigation strategies to meaningfully reduce any negative impacts, such as affordability or displacement risk.

In understanding the critical impact that policies and regulations have on our most vulnerable communities, future equity assessments should be thoroughly conducted as amendments are proposed

versus as they are scheduled to be approved. This would present an opportunity to include actual changes to future amendments if items are discovered to have a negative or neutral racial equity impact. Providing adequate time to meaningfully assess potential equity impacts creates opportunity for advocacy for our most vulnerable and impacted communities. Completing thorough equity assessments using the GARE model is the basis for a standard Equity Assessment in Watershed Protection with intention to continue to provide critical analysis and evaluate how projects and regulations impact our vulnerable communities. Evaluating these choice points and identifying unintended burdens to community takes time and commitment from the authoring teams as well as future TAG members. Time invested for these projects allow for opportunities to identify historical precedent and opportunities to engage community and stakeholders. To ensure findings of an Equity Assessment can be meaningfully developed, considered, and implemented, it is essential to scope an assessment in coordination with the WPD Equity Coordination Team as early in the process as possible.

Based on this initial evaluation of the 2022 Environmental Code Amendments Phase 1 deliverable, we identified a combination of unknown, potential positive, potential negative, and neutral racial equity impacts. We recommend that WPD allocate resources to implement the following recommendations to amplify potential positive or neutral impacts and mitigate potential negative impacts:

- Recommend immediate development of a WPD program to provide funding to cost share deeply affordable housing developments to meet existing water quality and drainage requirements as well as the proposed code amendments related to “green” infrastructure. The goal of program would be to promote community and environmental health benefits while offsetting any potential affordability impacts due to additional cost.
- Recommend immediate attention to potential internal equity impacts within Watershed Protection, specifically to the Field Operations Division, in coordination with findings in the Fiscal Impact Analysis. Evaluate potential impacts to workload and allocate immediate resources for staffing, training, facilities, and equipment to ensure there is abundant capacity to meet the anticipated increases that may result from this proposal. Ensure Field Operations Division is a primary stakeholder in developing and implementing related future recommendations such that design standards are oriented towards long term maintenance needs.
- Recommend tracking for staff administrative variances in proposal to ensure accountability in internal equitable decision-making.
- Recommend the TAG continue to coordinate with the project team on the Phase 2 deliverable and conduct a more in-depth assessment of equity impacts for the specific components of the proposal. This work may include development of a proposed framework and process for evaluating code amendments for equity impacts going forward.
- Develop scope for a full equity assessment of all environmental code to be conducted in 2023 with recommendations for potential code changes presented to Council by Fall of 2023.

We understand that the recommendations will require additional resources and further scoping, which can be coordinated with the WPD Equity Coordination Team. We urge the Executive Team to allocate WPD resources to this effort, as identified.