

## Tree and Shade Recommendations

September 11, 2019 draft incorporating comments from the public and EQSC commissioners

### Introductory Comments

At the direction of the Phoenix City Council (“Council”), the Environmental Quality and Sustainability Commission (“EQSC”) created the Urban Heat Island/Tree and Shade Subcommittee (“Subcommittee”). The purpose of the Subcommittee is to evaluate, analyze and recommend policies to address the issues surrounding Urban Heat and to advance implementation of the Phoenix Tree and Shade Master Plan. The Subcommittee includes representation and receives information from a diversity of areas, including arboriculture, urban forestry, community health, commercial development and management, urban planning, environmental education, academia and residents.

After substantial deliberation and public input, the Subcommittee drafted the Tree and Shade Recommendations and adopted them on July 11, 2019. EQSC then considered and revised the Tree and Shade Recommendations.

The purpose of the Tree and Shade Recommendations is to achieve the goals set by the 2010 Tree and Shade Masterplan, in particular the Masterplan’s goal of 25% tree canopy coverage by 2030. The Tree and Shade Recommendations reflect the important and unique influences of shade and the urban heat island effect on human health and the environment and the roles they play in either mitigating or exacerbating inequitable health outcomes. Additionally, urban forests provide environmental benefits and ecosystem services that can play a crucial role in building more resilient communities in a changing climate.

EQSC encourages private landowners in Phoenix to plant trees toward a goal of 25% tree canopy coverage on private lands by 2030 and to plant and maintain trees in accordance with the Urban Forest Design Standards and Best Practices.

In addition, EQSC supports the Planning and Development Department’s proposed Z-TA-5-15 Landscape Maintenance Text Amendment (May 2019) as a step toward strengthening existing requirements related to the installation, maintenance and replacement of trees in connection with landscape plan approvals.

EQSC recognizes that not all plants are compatible for all locations. EQSC urges the City to adopt a “Right Tree, Right Place” approach to ensure long-term viability of its tree inventory and to further the Tree and Shade Masterplan goals.

### Part 1. Definitions

1. For the purposes of this recommendation:
  - A. “Urban Forest” refers to trees grown and maintained on City owned and managed lands in Phoenix, excluding trees in the Phoenix Desert Parks and Mountain Preserves that are not irrigated.
  - B. “2030 New Urban Forest Goal” means the baseline quantification of the additional trees needed as of 2020 to achieve the Tree and Shade Masterplan goal of 25% shade on City owned and managed lands by 2030.

**Commented [JB1]:** Ginger: Consider an alternate title. Maybe “Shade Tree Recommendations” since the document focuses on trees and not all shade types.

**Commented [JB2]:** Ginger: General question: is shade trees just the first step of the urban heat island subcommittee? will the Subcommittee eventually address other topics such as ground cover, other types of shade structures, green walls, etc?

**Commented [JB3]:** Ginger: might help to have a summary here of the process taken to develop these recommendations: the purpose of the document, subcommittee members and affiliations, meeting frequency, description of public involvement/comments, etc.

Josh notes: I have taken an initial stab at that based on the information I have available.

**Commented [JB4]:** Ginger: General comment: review acronyms- first use, definitions, and consistency.

**Commented [JB5]:** Lesley: I agree with commenter #33 (andrea forman) While I agree that this is important, I worry that putting this in the intro statements is incongruent with the overall content of the plan (focus on city and commercial property). I also feel that this statement could raise opposition, even though it is an encouragement and not a mandate, and that there may be more effective ways/ places in the document to get this point across.

- C. Unless otherwise approved by the Urban Tree and Shade Administrator or specified in the Urban Forest Standards and Best Practices, tree size for new planting or replacement shall be in accordance with Arizona Nursery Association guidelines.
- D. "Topping" means cutting a trunk or large branches of the top of a tree, leaving stubs or lateral branches that are too small to assume the role of a terminal leader.
- E. "Shade" is defined in accordance with the City of Phoenix Walkable Urban Code § 1304(F).
- F. "Green Stormwater Infrastructure (GSI)" means landscape-based practices that manage stormwater where it falls and, for the purposes of this document, includes those GSI features that can also support vegetation such as bioswales, bioretention basins and similar features.
- G. "Tree and Shade Fund" means a financial account separate from the City's General Fund and managed in accordance with Section 4, herein.

**Commented [JB6]:** Ginger: should this be "of"?

Kim: on or off?

## Part 2. Implementing and Improving the Phoenix Tree and Shade Masterplan

- 1. As recommended in the Tree and Shade Masterplan, the Council shall establish a standing Phoenix Tree and Shade Commission (the "Commission") to provide oversight and continued implementation of the Tree and Shade Masterplan and advise the Council on matters related to the Urban Forest.

**Commented [JB7]:** Ginger: It's hard to tell which of the below are "implementing=ideas previously presented in planning documents" vs "improving=new recommendations"

- A. The Tree and Shade Commission shall include but not be limited to individuals with technical expertise in:

- 1) arboriculture
- 2) landscape architecture
- 3) horticulture
- 4) real estate development (commercial and residential)
- 5) public health
- 6) urban heat island mitigation/urban climatology
- 7) community leadership and engagement
- 8) green infrastructure
- 9) land use, zoning & community planning
- 10) air quality
- 11) finance/budgeting

**Commented [JB8]:** Kim: What is the difference between the responsibilities of the Commission and the Interdepartmental Team (see paragraph 2, below)?

**Commented [JB9]:** Sean Sweat of the Urban Phoenix Project urges us to make more explicit that the Commission shall be filled with experts, including multiple arborists, rather than political appointees. Is there more to say here about that?

- B. Each year, the Commission (with the help of the Tree and Shade Administrator) shall submit to the Council an annual "State of the Urban Forest" report which shall include:

- 1) a recommendation for a five-year Urban Forest budget
- 2) recommendations for continued improvement in Masterplan implementations
- 3) a current inventory of the Urban Forest and engineered shade

**Commented [JB10]:** Lesley: My general comment on this section is around feasibility of actually completing this report as currently outlined. Who is responsible for the data collection, specifically for inventory? I assume this is a fairly labor intensive process, especially to perform so frequently, so will this fall on the Tree administrator and other city staff? I support the report, but also want to make sure we're not adding burden to staff, unless the information from the report is intended to be directly useful/ acted on

David Hondula: I am supportive of the idea to produce an annual report, but it is not clear what resources/infrastructure are available to support that activity. If the commission is comprised of volunteers, is it likely that it will produce a high quality, and thorough, report? Could city staff time be used to support the Commission in producing this report?

- 4) an assessment of the health of the Urban Forest and the City’s progress in achieving the 2030 Urban Forest Goal and other objectives set forth in the Tree and Shade Masterplan, including lessons learned to date, and
  - 5) new technology for measuring the Urban Forest.
  - C. The Commission shall review and approve the City’s Urban Forest Design Standards and Best Practices as described below (section 6).
  - D. The Commission shall develop and recommend strategies for Phoenix to build a strong community commitment to planting and nurturing trees throughout the city, including through partnerships with schools, utilities, the commercial real estate industry, other governmental agencies and non-governmental organizations.
  - E. Recognize successful tree planting initiatives as models for future projects.
2. The City shall re-establish an Urban Forest Interdepartmental Team to coordinate implementing the Tree and Shade Masterplan and maintaining the Urban Forest. Membership shall comprise representatives of relevant departments including but not limited to: Planning and Development Services, Water Services, Neighborhood Services, Community and Economic Development, Office of Sustainability, Office of Environmental Programs, Public Works, Public Transit, ADA Coordinator, Street Transportation, and Parks and Recreation.
3. The City shall establish a full-time employee position of Tree and Shade Administrator to be charged with implementing the Tree and Shade Masterplan and maintaining the Urban Forest as well as:
- A. Coordinating the interdepartmental team specified in Part 1.2
  - B. Serving as primary staff liaison to the Tree and Shade Commission
  - C. Developing and updating the City’s Urban Forest Design Standards and Best Practices
  - D. Raising community awareness of the Tree and Shade Masterplan and Urban Forest Design Standards and Best Practices through articles in *PHX AT YOUR SERVICE*, features on PHXTV, posts in social media and other earned media
  - E. Engaging the community – businesses, utilities, universities, non-governmental organizations, private individuals, and others – in (1) supporting the City’s Tree and Shade Masterplan through monetary and in-kind donations and other means and (2) installing trees and constructed shade on private lands in the city
  - F. Coordinating with Maricopa County and other municipalities and governmental entities to implement tree and shade masterplans
  - G. Providing low-income or vulnerable neighborhoods assistance in acquiring and maintaining trees and shade
  - H. Pursuing grants and donations in support of the Tree and Shade Masterplan
  - I. Managing the City’s Tree and Shade Fund and online Tree and Shade Fund donation portal
  - J. Exploring incentives for interested residents that do not qualify for low income assistance, such as providing sessions that educate residents on best practices for successful shade tree planting.

**Commented [JB11]:** Lesley: This might be a good place to add the statement on encouraging residential land owners to also plant trees. (Andrea Forman’s comment #33)

**Commented [JB12]:** Josh: should we say anything about staff support for the Administrator?

**Commented [JB13]:** Lesley: Agree with David Hondula’s comments on adding the following to duties:  
-Developing and administering a (multilingual) robust community engagement strategy to ensure that tree and shade priorities and concerns from residents are incorporated into city efforts  
-Coordinating efforts with the state’s public research universities, especially concerning data sets and tools available to prioritize tree planting initiatives and opportunities to integrate/support tree and shade efforts with classroom education  
-Communicating with the city water department, the state drought task force and other water management entities to ensure a robust and healthy conversation related to tradeoffs between water use and shade provision

**Commented [JB14]:** Ginger: Would HOA’s fit in here?

**Commented [JB15]:** Ginger: If the idea is that financial assistance will be available in vulnerable areas, the City should find creative ways to encourage/incentivize best practices in all other areas.

4. The City shall maintain a separate Tree and Shade Fund to facilitate donations in support of the Tree and Shade Masterplan.

- A. Financial contributions in support of the Urban Forest shall be maintained in the Tree and Shade Fund and used solely in support of the Tree and Shade Masterplan. Civil penalties collected by the City for unauthorized tree removal, damage or topping shall be deposited into the Tree and Shade Fund.
- B. The City shall maintain an online Tree and Shade Fund donation portal to facilitate private contributions in support of the Tree and Shade Masterplan.

**Commented [JB16]:** Ginger: will the general fund contribute to this separate fund?

**Commented [JB17]:** Lesley: This may be in the weeds, but will this be a tax deductible donation? Will there be mechanisms for corporate sponsorships. Maybe just food for thought moving forward.

**Commented [JB18]:** Sean Sweat of the Urban Phoenix Project urges us to "replace the donation-based funding scheme with a significant budgetary expectation from the general fund."

5. To the extent feasible, implementation of the Tree and Shade Masterplan shall be prioritized to benefit people in these areas (which are not listed in order of priority):

- A. Public transit stops receiving the top 20% of boardings in the City, as well as walkways to those transit stops
- B. Areas with populations vulnerable to extreme heat as defined by the Centers for Disease Control and neighborhoods with concentrations of low-income residents, less than ten percent urban tree canopy coverage, and frequently-walked routes and transit dependency.
- C. High-use walk sheds, including walkable routes to public schools, food shops, parks, and libraries, and other vital public services.

**Commented [JB19]:** David Hondula: I recommend leaving section 5 more open-ended, to be shaped collaboratively with residents, community leaders, experts, and the commission. As written, the priority elements have some overlap which could be confusing/contradictory. The CDC guidance related to heat vulnerability does not take advantage of the wealth of information gathered by ASU over the past two decades that is specific to Phoenix. I recommend highlighting some general principles in this section, and then tasking the commission to produce a priority list of neighborhoods and street segments within its first six months.

6. The City shall publish Urban Forest Design Standards and Best Practices as approved by the Phoenix Tree and Shade Commission.

- A. City departments shall plant and maintain trees on City owned and managed properties in conformance with the Urban Forest Design Standards and Best Practices.
- B. Unless otherwise approved by the Tree Administrator, landscaping plans and parking lot designs for commercial or multi-family residential properties shall conform to the Urban Forest Design Standards and Best Practices.
- C. The City shall make the Urban Forest Design Standards and Best Practices available online.

D. The Urban Forest Design Standards and Best Practices shall include:

- 1) Minimum container size for tree plantings as recommended by the Arizona Nursery Association.
- 2) Recommendations for tree species that are appropriate for location and explicitly recognize that preferred species are climate-adapted, low water-use, low VOC-producing and low allergen
- 3) Oasis planting standards
- 4) Tree-well, soil and grate standards
- 5) Tree pruning and care standards
- 6) A prohibition on topping trees, unless approved by the Tree and Shade Administrator

**Commented [JB20]:** Ginger: how about a standard on how to appropriately water? and another on ground cover/shrubs that can help trees successfully grow.

**Commented [JB21]:** Ginger: Do any fruit or nut trees meet the preferred requirements?

**Commented [JB22]:** Ginger: ozone precursor emitters?

**Commented [JB23]:** Kim: should we define this?

- 7) Consistent specifications for planting and staking standards
- 8) Standards for best practices near utilities & rights of way, including recommendations for appropriate species under power lines

E. Palm trees shall not be included as a recommended tree species in the Urban Forest and Design Standards and Best Practices.

**Commented [JB24]:** Sean Sweat of the Urban Phoenix Project encourages us to state that palm trees are not protected or encouraged in this policy, since they do not provide meaningful shade. Is there anything we should add to that effect?

7. To ensure that the City reaches the goals of the Tree and Shade Masterplan, beginning in 2020 and every year thereafter:

- A. The City shall plant additional trees amounting to at least 10% of the City's Urban Forest Goal. In addition, trees in the Urban Forest that have died or been removed shall be replaced one-for-one each year, and such replacements shall not count towards that year's 10% figure.
- B. In addition to private donations and grants in support of the Tree and Shade Masterplan, the Council shall allocate sufficient funding to increase the Urban Forest annually by at least 10% of the 2030 Urban Forest Goal and to cover the increased costs of the care and maintenance of trees on City owned and managed lands.

**Commented [JB25]:** Ginger: Is there any idea how much money this is, approximately? Is this adequate funding to achieve goals and care for/maintain trees on City property?

8. Because trees provide a multitude of environmental, social and aesthetic benefits to people, in implementing the Tree and Shade Masterplan, preference will be given to trees over constructed shade wherever practicable.

9. As appropriate and based on site-specific characteristics (i.e., soil infiltration rates, slope, etc.), the City shall incorporate Green Stormwater Infrastructure (GSI) features as complementary and supporting components to tree and vegetation planting projects. GSI requirements shall include:

- A. Incorporation of appropriate GSI features to support the Tree and Shade Master Plan to reduce potable water irrigation consumption by utilizing local stormwater more effectively including, among others, bioswales and bioretention basins.
- B. Prioritization of the water conservation benefits of GSI by selecting native or desert-adapted species and by using tall pots (i.e., desert trees grown in a long container to mimic the natural growth characteristics of native desert trees).
- C. The City shall utilize the Greater Phoenix Metro Green Infrastructure Handbook: Low-Impact Development Details for Alternative Stormwater Management from the Sustainable Cities Network or equivalent best practices as a reference for GSI design details specific to the Phoenix area.

**Commented [JB26]:** Lesley: Agree with Josh Bendor's and others comments on this sections. Specifically, how is this feasibly going to be enforced? Do we know how frequently this is occurring currently? Would be putting resources into monitoring and enforcement that might be better used to plant more trees in high-need areas?

What does the permit process and timeline look like? How and who is defining valid business reasons? I know we are trying to not be too prescriptive, but I do think this could be a sticking point.

**Part 3. Planning and Zoning:** The Phoenix City Code shall be amended to integrate the following provisions:

- 1. No tree planted in City owned and managed lands shall be removed or topped without prior authorization from the Tree and Shade Administrator. Removal, topping, or damage that necessitates removal of a tree planted in City owned and managed lands without prior authorization

**Commented [JB27]:** David Hondula: It is not entirely clear to me who the "offending" parties will be that remove trees from city owned and managed lands. Would this be private landscaping companies? I'm concerned that the city will ultimately wind up penalizing itself! Has anyone made an estimate of the total budget that might be accumulated through these penalties? I am happy to support enforcement activities, but only if they add up to a meaningful contribution to the overall tree and shade efforts.

shall be deemed a violation subject to civil penalties in the amount of \$100 per diameter at breast height (“DBH”) inch of the injured tree. Wherever feasible, the tree shall be relocated at or near its original site. This provision does not apply to tree trimming or removal (1) by authorized public utilities where necessary for safety or other valid business reasons, or (2) where a tree poses an imminent threat to the public health or safety.

2. No tree planted in a non-residential or multi-family property shall be removed or topped without prior authorization from the Tree and Shade Administrator. Removal of, topping, or damage that necessitates removal of a tree planted in a non-residential or multi-family property as specified in an approved building permit shall be deemed a violation subject to civil penalties in the amount of \$100 per DBH inch of the injured tree. This provision does not apply to tree trimming or removal (1) by authorized public utilities where necessary for safety or other valid business reasons, or (2) where a tree poses an imminent threat to the public health or safety, in which case the property owner shall promptly request retroactive authorization.
3. Unless otherwise authorized by the Tree and Shade Administrator, whenever a tree is removed from a City owned or managed land or a non-residential or multi-family development, the owner of the land shall plant a replacement tree on the same property within six months of the removal or relocate the removed tree to an appropriate location.
4. As of 2020, site plans for new development shall conform to the Urban Forest Design Standards and Best Practices.
5. As of 2020, unless otherwise authorized by the Tree and Shade Administrator, trees specified in non-residential and multi-family residential site plans shall be maintained in conformance with the Urban Forest Design Standards and Best Practices.
6. The Urban Forest Design Standards and Best Practices shall be incorporated into the City's zoning ordinances.
7. GSI Design Standards and Best Management Practices or equivalent best practices shall be incorporated into the City's zoning ordinances.

**Commented [JB28]:** Ginger: needs discussion:  
1) emergency exemption or retroactive permits  
2) "DBH" vs "like kind and size"

**Commented [JB29]:** Josh: I have made this proposed revision to clarify who is responsible for replacing the tree. This also should resolve SRP's comment on this section.

**Commented [JB30]:** Ginger: too soon?

**Commented [JB31]:** Ginger: all development or clarify types of development?

**Commented [JB32]:** Ginger: what if they aren't? what determines the penalties?

**Commented [JB33]:** Ginger: any other documents where they will be incorporated? planning documents?

**Commented [JB34]:** Ginger: any other documents where they will be incorporated? planning documents?