



PLANNING COMMISSION

Department of Urban Planning & Design • P.O. Box 27210 • Tucson, AZ 85726-7210

DATE: August 20, 2008

TO: Planning Commission

FROM: *Albert Elias*
Albert Elias, AICP
Executive Secretary

SUBJECT: Proposed Amendments to Land Use Code
(1) Landscape Buffer & Screening: Trees in Parking Lots and Screening Materials, Walls
(2) Native Plant Preservation: Buffelgrass Mitigation Plan

Issue: Of growing interest and concern is the “urban heat island effect” of large, dark, absorbent surfaces in urban areas. Dark surfaces result in increased air temperatures in the immediate area, and the effect is more pronounced at night. This impacts the adjacent area, and, when considered as part of the larger urbanized area, the community as a whole. To reduce the "heat island" effect, it is recommended that an increased number of trees be planted within vehicle parking area at a ratio of one tree per every four parking spaces. Alternatively, the applicant may demonstrate, through a shade pattern analysis, that shade coverage will be provided for at least 50% of the vehicle use area, from 9:20 a.m. to 3:20 p.m. PST on June 21, with shading provided by mature canopy trees, buildings and/or other structures.

Of equal concern is a regional landscape issue of the serious invasive threat of non-native, buffelgrass (*Pennisetum ciliare*) to the ecological landscape community of the Sonoran Desert. The threat to the natural communities is the introduction of extreme fire as a new ecological process. Few Sonoran Desert plants can withstand the extreme heat of burning buffelgrass. Saguaro, Palo Verde, various cacti and Ironwood would be killed changing the dynamics of the desert ecology. Buffelgrass thrives on burns and would quickly overtake the landscape. To protect the existing Sonoran Desert landscape, all local jurisdictions have taken to jointly control the spread of buffelgrass in their respective jurisdictions. Due to its exponential rapid spread, action needs to be taken sooner rather than later.

Recommendation: Staff recommends the Planning Commission set this item for public hearing at the September meeting.

Amendment Request: Urban Planning & Design staff has prepared two amendments to the Land Use Code. The first is in the Landscape Buffer and Screening section addressing to increasing shade in parking lots to 1 tree per every 4 parking spaces ; and screening wall materials to reflect safe-by-design elements, graffiti-resistant, aesthetic variations and open screening to walls along trails and open space areas. The second change adds a Buffelgrass Mitigation Plan to the Native Plant Preservation Ordinance.

Policy Direction: The City of Tucson’s *General Plan* and other Mayor and Council policies provide policy guidance for this proposed Land Use Code amendment. *General Plan* policies are long-term, broad-based, and apply to the entire City, whereas Mayor and Council

sustainability-related policies are more specific. A summary of relevant policy direction follows:

1. General Plan – Element 4

- Supporting Policy 4.9: *Promote the planting of street trees to provide shade for the pedestrian and visual relief for the driver and bicyclist.*
- *Supporting Policy 4.9.C:* Allow shade structures as a substitute for trees in situations where shade can be provided more effectively through arcades and other architectural solutions or where a more formal effect is desired.

2. Design Guidelines Manual

- I.A.4.: Vehicular Circulation and Parking
 - c. Parking, Loading, and Maneuvering
 - Intent - Provide safe vehicular parking, loading, and maneuvering, with attention to functional and aesthetic concerns such as trash removal, emergency access, and reduction of heat build-ups.
 - Solution One - Develop a comprehensive vehicular circulation system that allows parking, loading, and maneuvering to be contained wholly within the development. Functional and aesthetic issues could be addressed through the following:
 - Shared loading area and dumpsters
 - Alley access and screening of dumpster
 - Use of vegetation and alternative paving materials to reduce heat build-up
 - Solution Two - Where existing site context indicates a more flexible approach, a portion of the required parking can be on-street if the following criteria apply:
 - On-street parking would add to the urban street character
 - On-street parking would improve pedestrian safety
 - The nature of the site and neighborhood context is appropriate for on-street parking
 - Existing or future bicycle routes are not obstructed

3. Design Guidelines Manual

- I.B.3.: Buffering/Screening/ Landscape Design
 - c. Placement of Trees
 - Intent - Provide a pleasant microclimate for pedestrians and increase the aesthetic appeal of a development.
 - Solution - Carefully locate trees to provide shade, wherever possible, to pedestrians by:
 - Placing trees no further than 25' apart, particularly along walkways
 - Clustering trees at plaza areas or other public gathering places

5. United Nations Urban Environmental Accords endorsed by Mayor & Council in 2005.
Applicable Accords actions include:

- Reduce the city's peak electric load by 10% by 2012.
 - Create a city-wide greenhouse gas reduction plan that outlines steps to reduce emissions by 25% by 2030.
 - Inventory existing canopy coverage in the city and maintain canopy coverage in at least 50% of all available sidewalk planting sites
- 6. Mayors' Climate Protection Agreement** adopted by Mayor & Council in 2005.
Relevant actions include:
- Reduce sprawl, preserve open space, and create compact, walkable urban communities
 - Practice and promote sustainable building practices, such as through the LEED program.
 - Maintain urban green space and promote tree planting to increase shading and absorb CO₂.
- 7. Urban Landscape Framework** endorsed by Mayor & Council in 2008. Applicable recommendations:
- Mitigate Urban Heat Island effect.
 - Update codes, guidelines and ordinances to resolve inconsistencies and to implement progressive, innovative practices.
 - Promote the environmental, economic and aesthetic values of trees.
 - Recognize projects and landscape that utilize sustainable design principles.
- 8. Sustainability Framework** adopted by Mayor & Council in 2008. Applicable policies:
- Practice Goal(s): Demonstrate environmental leadership
 - Policy Goal(s):
 - Provide a policy and regulatory framework that supports sustainable development
 - Ensure the Land Use Code and other City ordinances and standards support development that is sustainable
 - Pursue the objectives outlined in the Mayors Climate Protection Agreement
 - Partnership Goal(s): Encourage public and private action in support of resilient social and economic systems that can withstand the stress induced by anticipated climate change impacts within our region.

Mayor and Council policies advocate for greater mitigations of the Urban Heat Island and building in an ecologically sensitive manner.

General Plan policies promote quality in design for all new development and redevelopment. Development should follow environmentally sensitive practices that promote healthy city growth.

Public Contact: Staff has been adding the increased requirement of trees in parking lot, wall condition and buffelgrass mitigation plan requirement in conditions of rezoning. Request for

1 tree per 4 parking spaces has been recommended as a condition for over a year. Request for a buffelgrass mitigation plan has been recommended as a rezoning condition for less than one year. Request for the wall design treatment has been recommended as a rezoning condition for approximately for 15 years.

When these have been made conditions of rezoning, the applicant has accepted them.

Conclusion: The existing adopted policy of the Mayor and Council endorses Urban Heat Island mitigation. The proposed amendment promoting greater shade in parking areas addresses mitigation of Urban Heat Island.

Buffelgrass is an invasive species that threatens the Sonoran Desert Landscape. A change to the Native Plant Preservation ordinance for buffelgrass mitigation is part of a larger regional response to this biological alert.