City of Austin Urban Forestry Board

Recommendations Regarding the Proposed Wildland Urban Interface Code

The City of Austin Urban Forestry Board (UFB) recognizes that Wildland Urban Interface (WUI) fire is a serious concern. However, fire risk reduction is not only just a fire issue, but a critical ecological and environmental issue that impacts the entire community. A rational approach is needed to balance the needs for fire risk reduction with protecting the urban forest environment.

Vegetative fuel load reduction does not provide significant fire risk reduction unless it is combined with home hardening. The majority of homes do not catch fire from a fire front, but from embers. Case studies show that the majority of home fires are started by embers that travel up to 5 miles and land on combustible materials, most often a shingle roof or a pile of leaves in the gutter.

Retrofitting existing homes on a neighborhood basis to minimize combustibility is important, since adjacent burning houses are a leading cause of home ignition. Relative to vegetation, structures exhibit more intense fire with a longer residence time, increasing the likelihood of igniting adjacent structures. Fire from neighboring homes is often more devastating and a greater ignition threat than fire from vegetation. Homes built very close to each other in new subdivisions facilitate ignition by exposure to other burning houses.

The UFB strongly recommends the following regarding the new WUI fire code:

- The new WUI code should incorporate all of the Watershed Department's comments on the draft ordinance, including the boundary map.
- The fire chief should collaborate with other departments both for writing the WUI code and when implementing the code (i.e., when deciding on individual cases).
- The home hardening measures for fire risk reduction should be required for new and existing homes and other structures within the WUI zone. City building code should be revised to include such measures, including those listed in Appendix A.

⇨A retroactive reduction in existing home ignition potential should be the top priority, because potential combustibility is the principal cause of home losses in WUI fires. Studies show that hardening the home provides a risk reduction of about twice as much as that obtained from removal of vegetative fuel load.

- WUI regulations that prioritize vegetation removal should be avoided, since protecting trees and vegetation is crucial for a healthy urban forest.
- The new WUI fire code should follow Firewise recommendations to reduce home and structural ignition, such as decreasing and disconnecting these and other fuel load paths around the home.
- Once structures are retrofitted to minimize ignition potential, the defensible space should be determined on a case by case basis by AFD experts working with other City departments. Defensible space prescriptions should be carefully adapted to the local hazard level and topography, as well as on-site structures, vegetation, and irrigation. Firewise defensible space guidelines (30 ft. and 100 ft. buffers) should only serve as a starting point for adapting regulations (up or down) to the site.
    ⇨Prior to implementation, the commonly used recommendation, that defensible space should be 30 ft. from the edge of the home for zone 1 and 100 ft. for zone 2, should be validated by computer models, experimental tests, or case studies, which are specific to the predominantly short-statured woodlands of the Austin area.
- The code should specifically require and enforce retrofitting of existing homes in high fire risk areas, to reduce the home ignition as much as feasible by using non-combustible materials (replacing a wooden fence with an iron fence, replacing a shingle roof with a metal roof, etc.) and HIZ techniques (such as leaving gaps between combustible materials like a wooded deck to the home, watering trees near the home, etc.).
- The reduction in vegetative fuel load should follow locally adapted Firewise guidelines. In zone 1, the objective should be thinning brush and preserving trees, with branches pruned only as needed close to roofs, ground, or adjacent tree canopy. In zone 2, reduction should be only as needed and limited either to thinning brush OR pruning trees. Thinning both trees and brush should be avoided, except in very heavy wooded areas, and as determined on a case by case basis by AFD experts.
- The code should require the flexibility to preserve tree groves and heritage trees that may be adversely impacted.
- The new WUI code should not recommend, or encourage, the removal of pre-selected native tree species. In particular, species should not be targeted, which have high value to wildlife, such as juniper, mesquite and hackberry. To help buffer climate change, protection of existing native tree species is needed for wildlife and endangered species.

- The new WUI code should require future developments to leave a minimum 100 ft. undeveloped “fire” buffer extending from the existing edge of the preserves into the development site. In this manner, development and WUI management should not encroach upon on preserves, WQL, and other conservation lands.
- The city should provide assistance to lower-income households in high fire risk areas for retrofitting their homes with noncombustible materials.
- The new WUI code should require that new developments in high risk wooded areas be planned and built in a Firewise manner with an upgraded fire (building) code that emphasizes noncombustible building materials.
- Homeowners who reduce vegetation fuel loads should be required to comply with all federal, state and local laws, including the Protected and Heritage Tree Ordinance, including all necessary permits without exemptions or waivers.
- Wherever possible, Firewise recommendations for crown separation within Zones 1-2 should be reduced by compensatory on-site measures, such as pruning lower branches and thinning underlying shrubs. If no alternative exists to prevent tree removal, including structural retrofitting, then non-native and younger trees should be removed, so that protected and heritage trees remain.
- The existing city code requirement that no more than 25% of the canopy be removed should remain in effect during application of the WUI code.
- Strong city enforcement of the WUI code should be required. The ultimate responsibility for home wildfire protection lies with private homeowners.

Cc: Mayor Leffingwell and City Council members; Chief Evans, AFD; Marc Ott, City Manager; Bert Lumbreras, Assistant City Manager; Sara Hensley, PARD Director; Victoria Li, WPD & Dev. Rev. Director; Michael Embesi, City Arborist; William Conrad, BCCP Secretary

Appendix A

Home Hardening Measures

WUI code requirements to reduce the ignition potential of homes and other structures should include:

- Non-combustible roofs in high risk areas
- Replacing wooden fences with non-combustible fences
- Installing adequate guards or sealing at potential entrances to prevent embers from reaching the attic
- Separating adjacent wooden and combustible structures (sheds, detached garages, etc.) from the home and other structures
- Avoiding wooden decks or separating them from the home and other structures
- Replacing single pane windows with double pane windows
- Use only metal gutters
- Installing guards on gutter (even if cleaned before the fire, gutters can be filled with debris during fires)
- Cleaning leaves and debris from roof, gutters, and around structures
- Removing wood piles and other flammable objects (outdoor furniture, cushions, etc.) away from structures
- Maintain and irrigate their landscape
- Use fire-safe construction materials
- Close the underside of a deck or building
- Replace siding, porches, or decks with fire resistant materials
- Increased fines and enforcement for throwing cigarettes out of your car
- Use propane, not coals, for barbequing
- Greatly increased penalties for violating burn bans