



AUSTIN FIRE DEPARTMENT

2024 International Wildland Urban Interface
Code Adoption

2024 International Wildland Urban Interface Code

Local Amendment
Adoption

Our Mission Goes Beyond Our Name is our cornerstone

As a leader in the fire service:

We are on the cutting-edge of technology and training.

We protect lives and property through extensive fire prevention and safety education efforts, in addition to a quick and effective response to emergencies.



Proposed Adoption

In accordance with ICC latest publication, Austin Fire Department is on track to implement the 2024 International Wildland Urban Interface Code (IWUIC) and local amendments 30 days following City Council adoption, **tentative date mid-October 2024.**



Coordinate and Clarify

Goals: Clarify previously adopted local amendments with changing technology and published code.

Adjust requirements based on challenges and successes of initial implementation of the IWUIC.

Reasons for amendments:

1. To support operating procedures for Wildfire Operations.
2. Formalize WUI Proximity Zones to clarify structure hardening requirements.
3. Align requirements with current wildfire research.
4. Clarification purposes and formalizing 2015 WUIC interpretations.



2024 IWUIC Significant Changes

Significant Changes to IWUIC model code:

- 104 Determination of Compliance (*COA amendments refer to Fire Code*)
 - Outlines requirements for technical opinions, reports, and alternative materials, design and methods
- 503.2 Ignition-resistant building material. Reorganized and clarified.
- 504.5.1 Flashing. Additional requirements above International Residential Code.
- 504.10, 505.10, 506.5 Vents
 - Performance and Prescriptive requirements
 - 1/8" max. mesh openings, in alignment with current COA regulation



Wildland

An area in which development is essentially nonexistent including but not limited to grassland, pastures and farmland, shrub-covered and treed areas, easements, unmitigated parkland, and other natural surfaces that are not regularly maintained.

- Wildland is no longer defined as 40 acres or 750 acres.
- Wildland mapping will reflect approximately 10 acres, to be specified within Fire Protection Criteria Manual.
- Expands examples of wildland types and includes easements.
 - Compared to the model code, the amendment does not exempt roads, railroads, power lines or similar facilities from being wildland.
 - Additional guidance will be included in the Fire Protection Criteria Manual.



Proximity Zone

Section 302.4

The designation given to a structure to determine the enhanced ignition resistant construction required to reduce the effects of a wildfire on the structure. The proximity zone is based on the distance of the structure from the wildland per Section 302.4.

302.4 Proximity Zone designation:

- Proximity Zone A structures are those that are 50 feet or closer to the wildland.
- Proximity Zone B structures are those that are greater than 50 feet and up to 150 feet from the wildland.
- Proximity Zone C structures are those that are greater than 150 feet and up to 1.5 miles from the wildland.

302.4.1 Proximity Zone Conflicts:

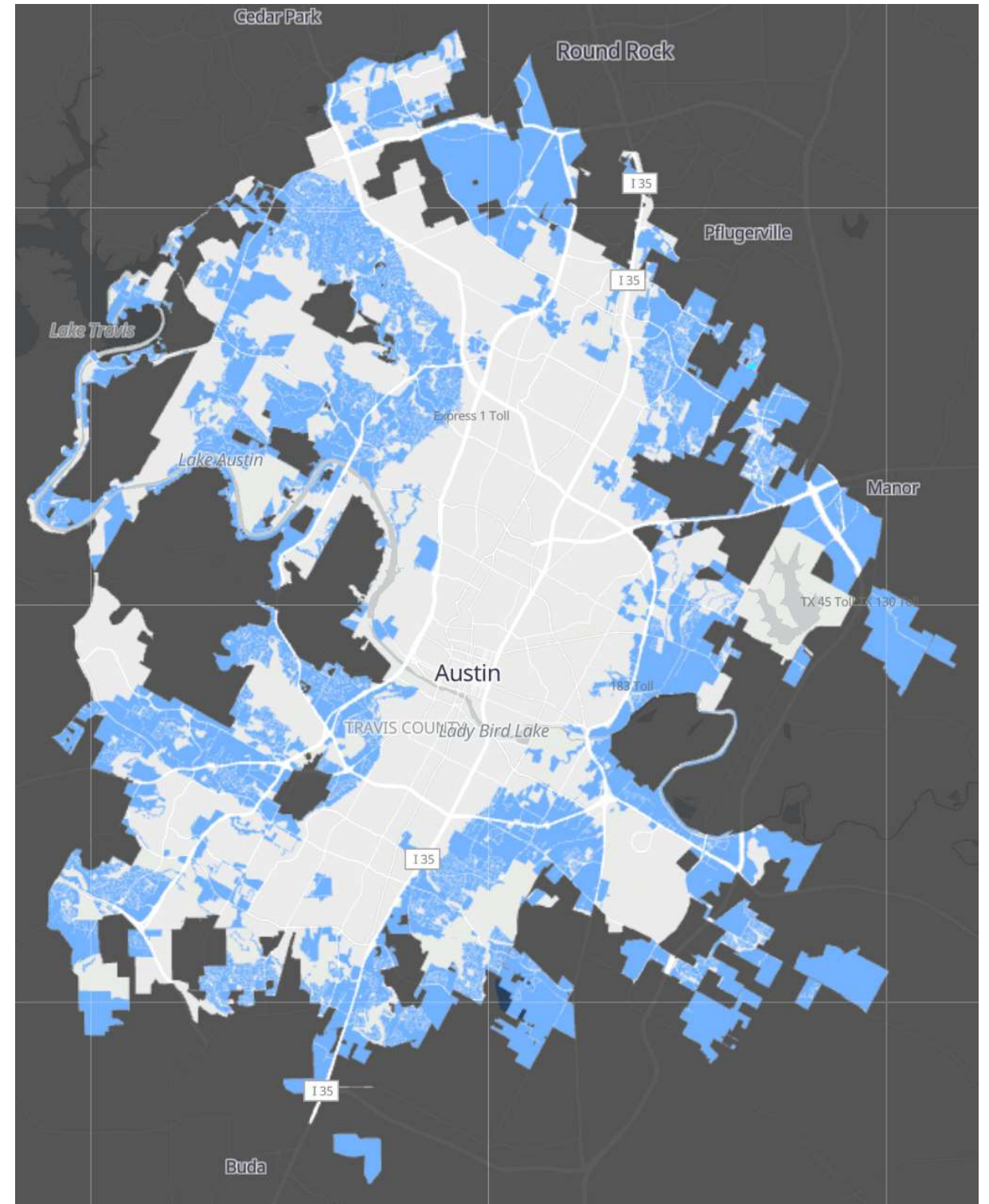
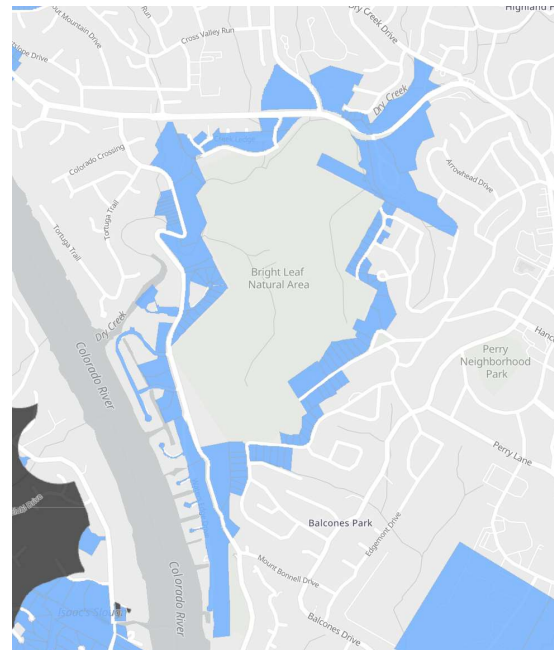
The more restrictive zone applies for a structure where it crosses multiple zones.



Current WUI Map

Concerns:

- Discrepancy created by using 40 acres of wildland for Zones A and B, versus 750 acres of wildland for Zone C
- High risk areas of Austin are unprotected
- Ease of application and determining site conditions



2024 Proposed WUI Map

Proximity Zones:

Zone A: Within 50' of 10 acre+ wildland

Zone B: Within 150' of 10 acre+ wildland

Zone C: Within 1.5 miles of 10 acre+ wildland

Legend:

Green/Dark Blue = Wildland & Proximity Zones A & B

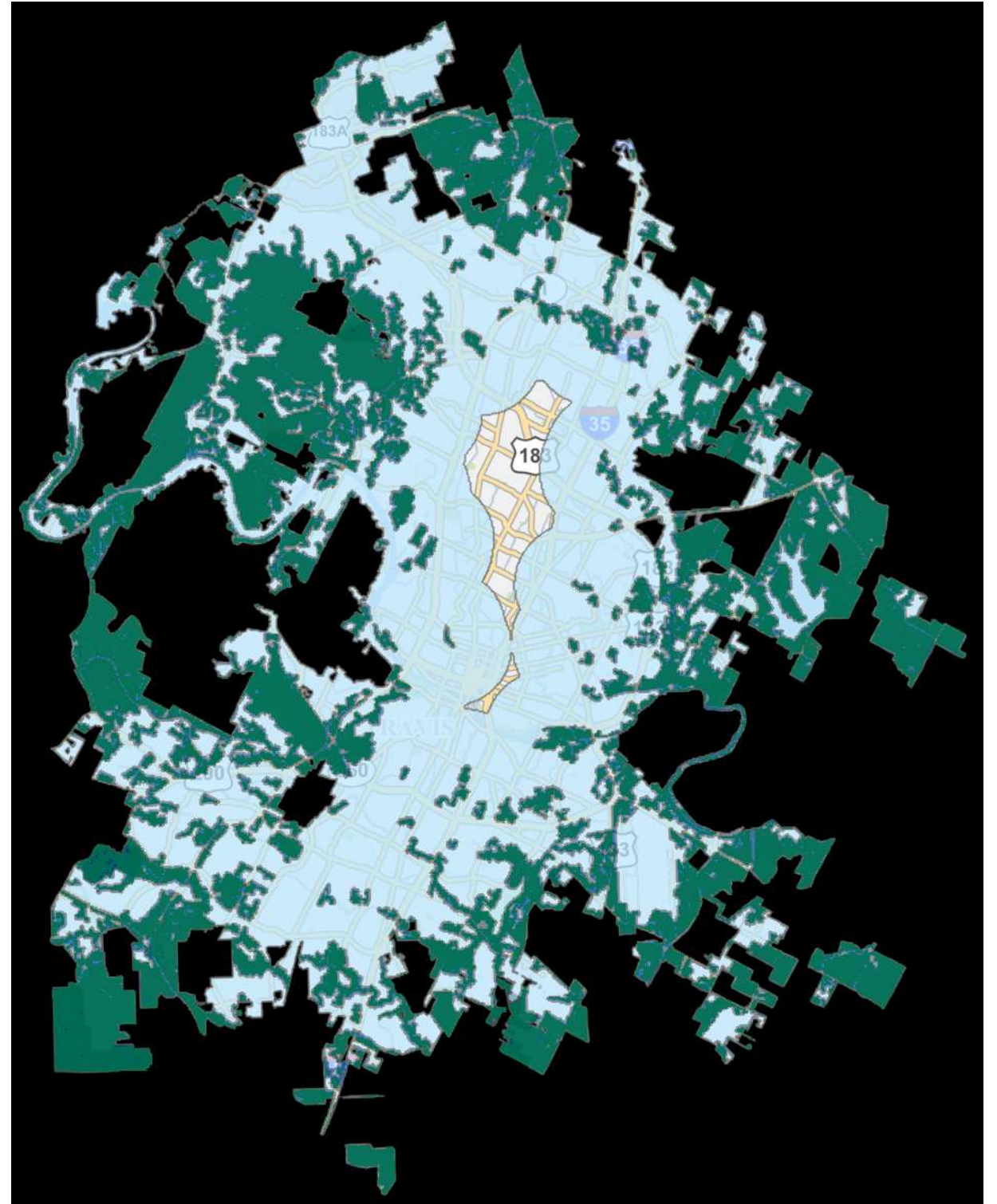
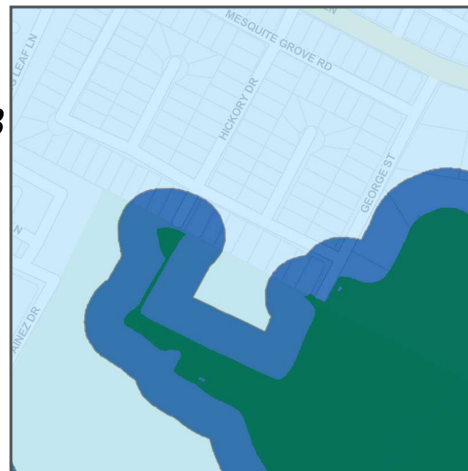
Light Blue = Proximity Zone C

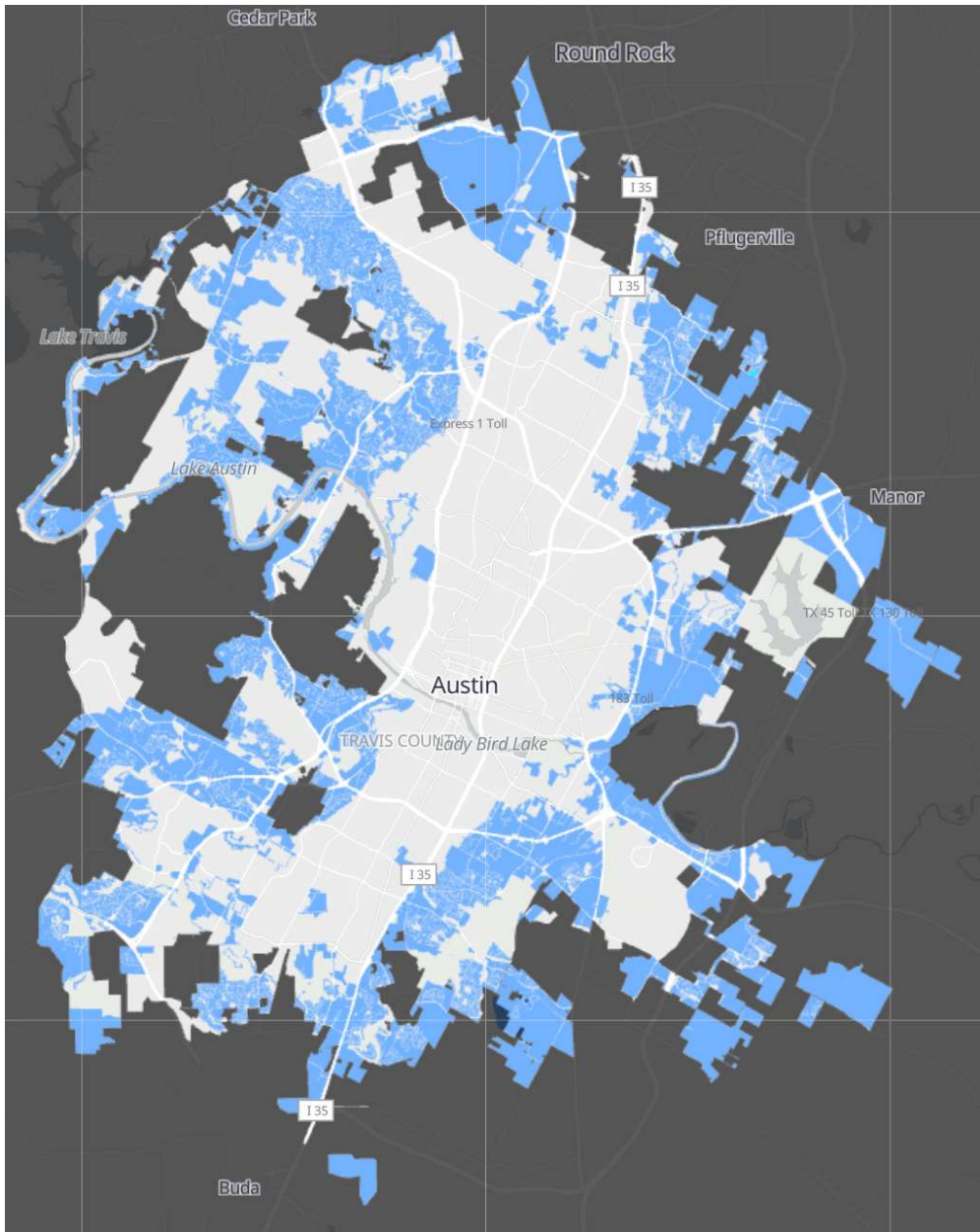
Close-up Legend:

Green = Wildland

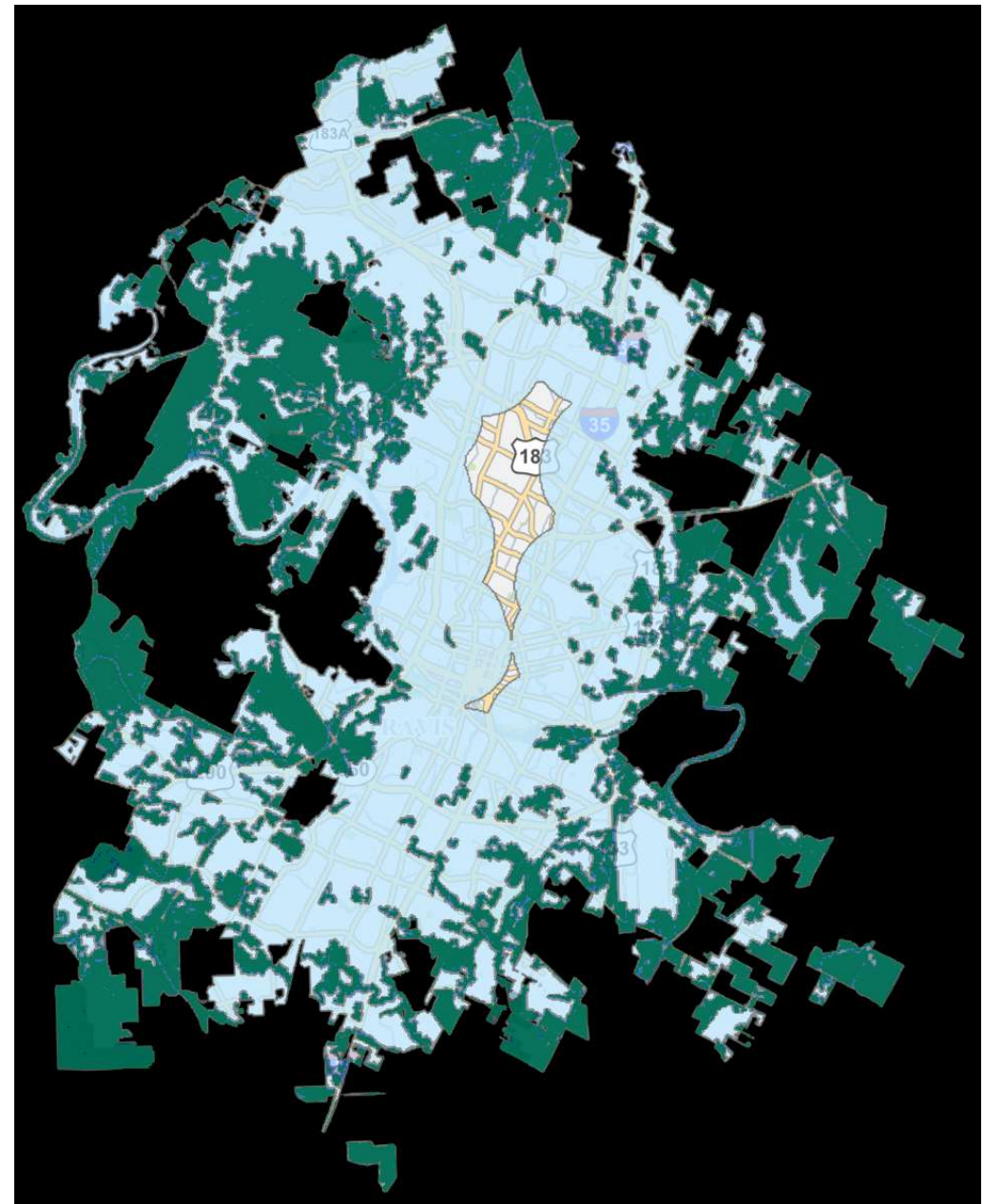
Dark Blue = Proximity Zones A & B

Light Blue = Proximity Zone C





Current 2015 WUI Map
(wildland not currently shown)



Proposed 2024 WUI Map
(wildland represented)



Austin-Travis Co. Wildfire Risk

This map can be found on the Wildfire Hub to help assess your property's wildfire risk level.

<https://wildfire-austin.hub.arcgis.com/>

Legend:

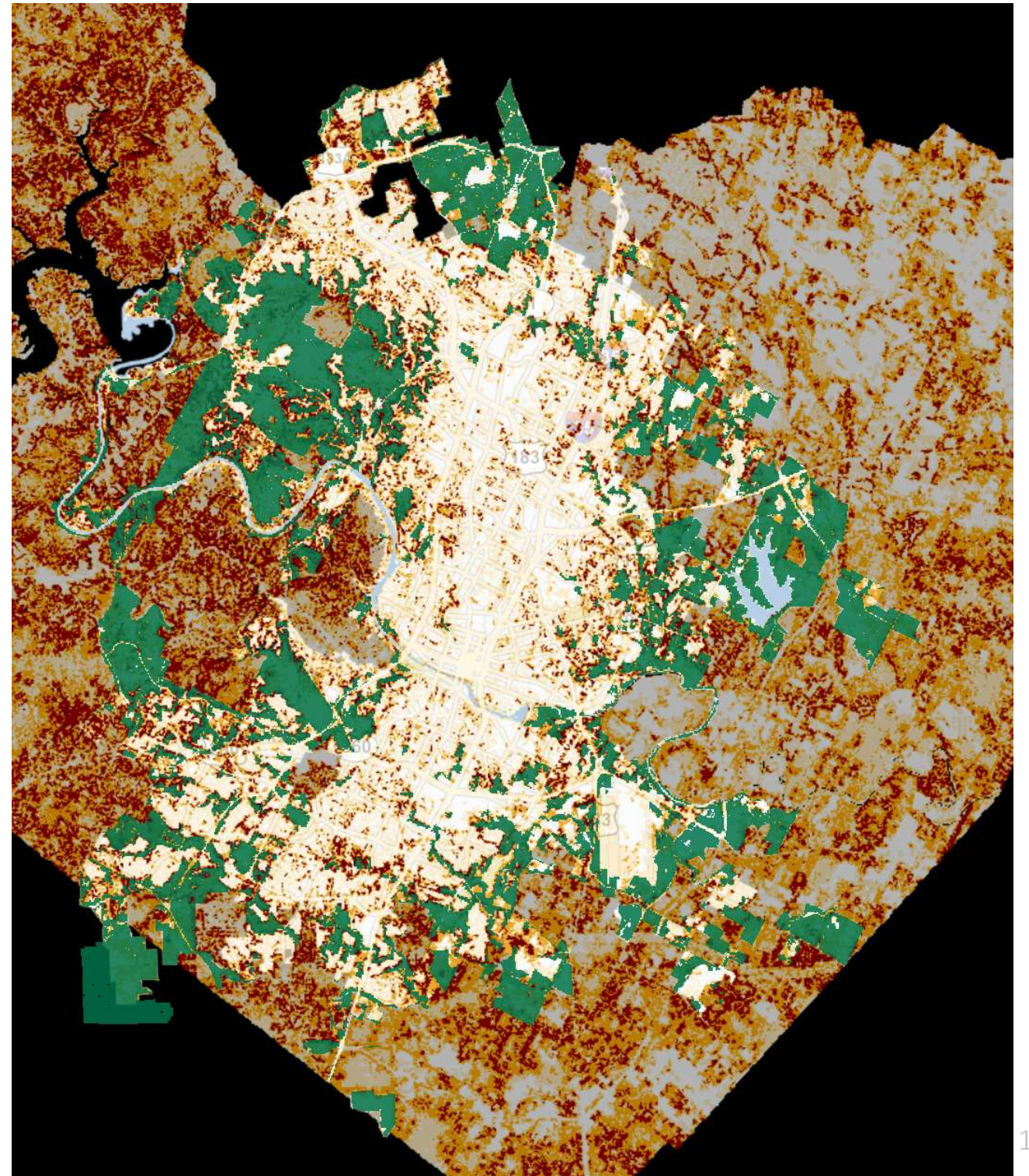
White = Lowest

Light Yellow = Moderate

Orange = Elevated

Dark Red = High

Green = Wildland within the City of Austin



2024 Proposed Map Option B

Proximity Zones:

Zone A: Within 50' of 10 acre+ wildland

Zone B: Within 150' of 10 acre+ wildland

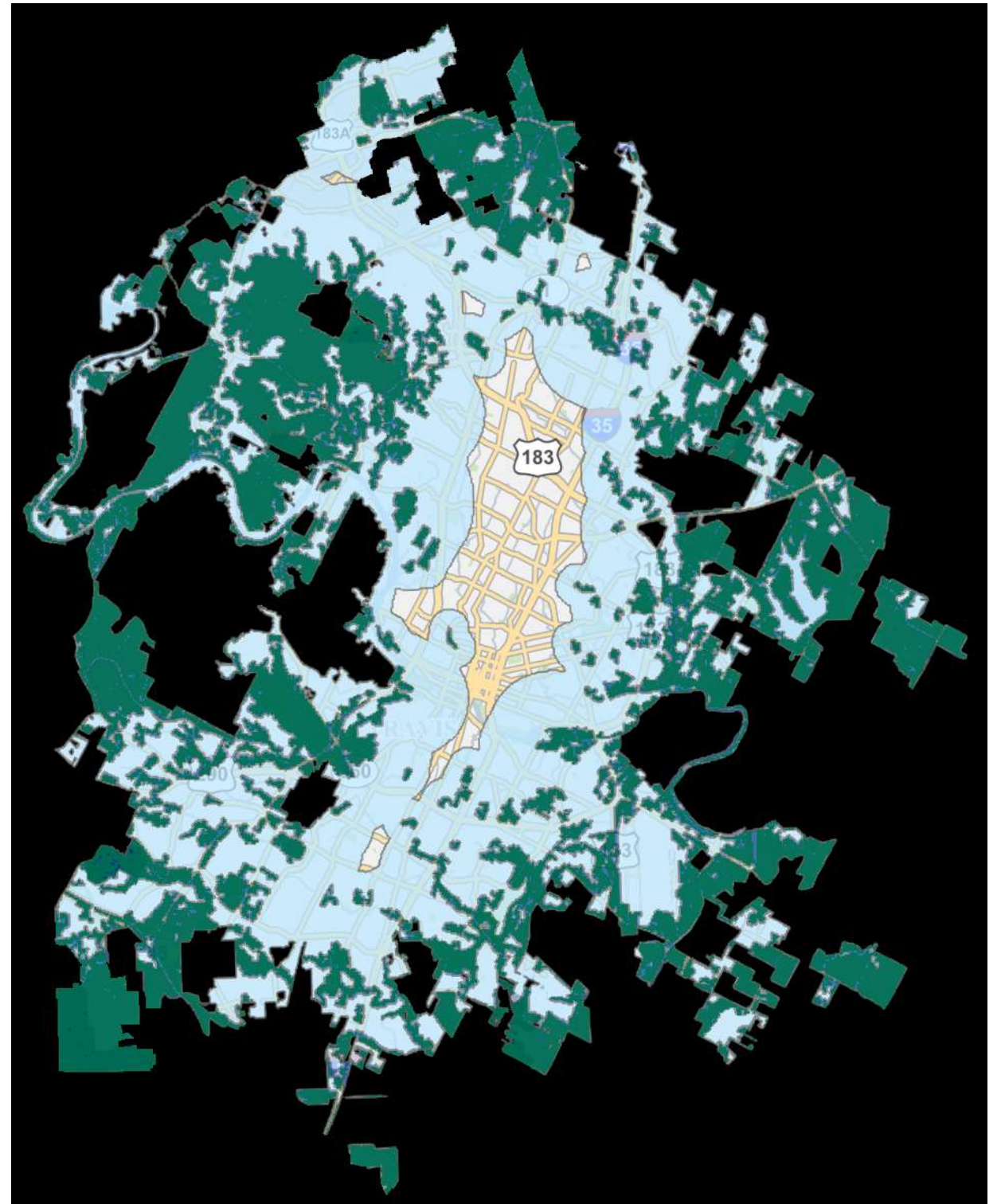
Zone C:

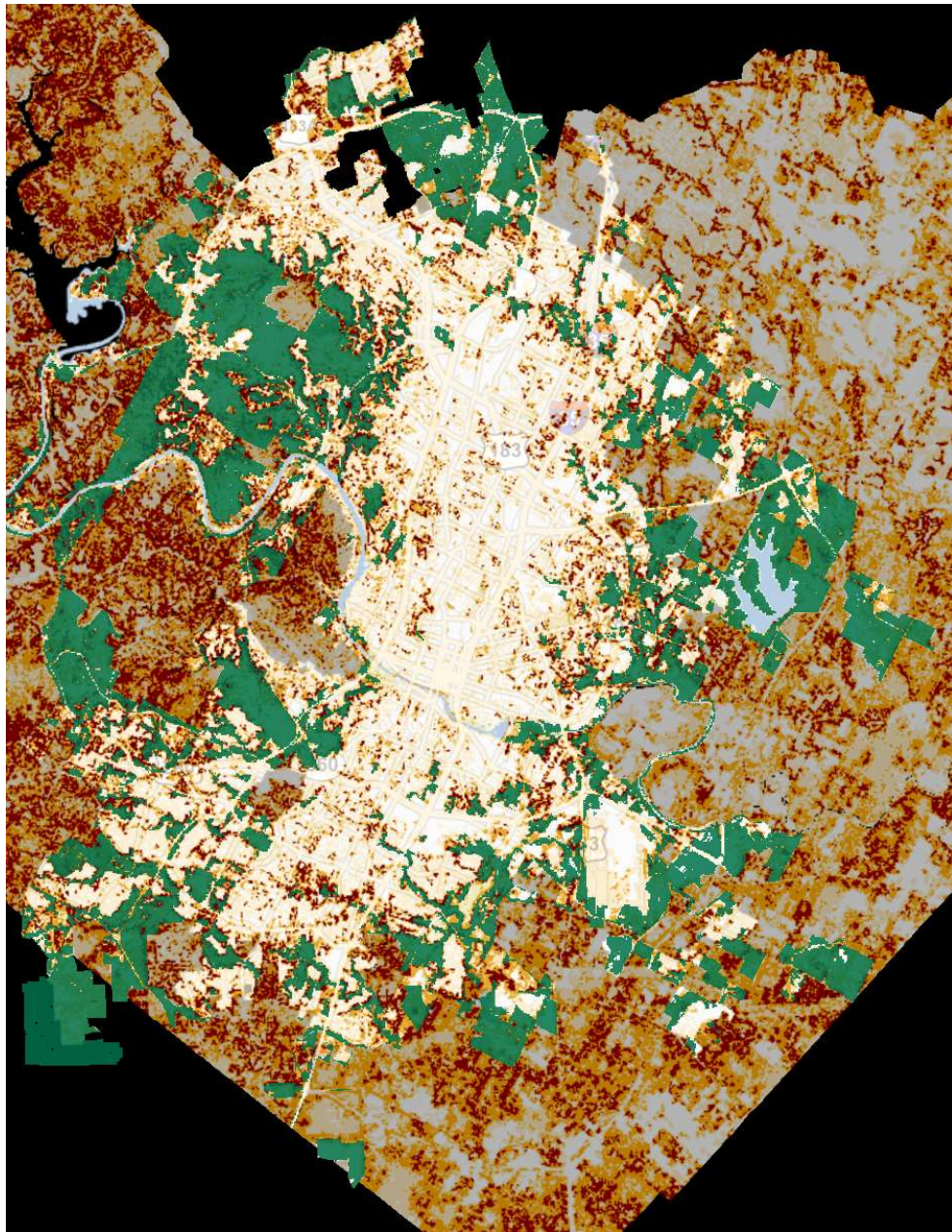
- Within 1.5 miles of 100 acre+ wildland
- Within 0.5 miles of 10 acre+ wildland

Legend:

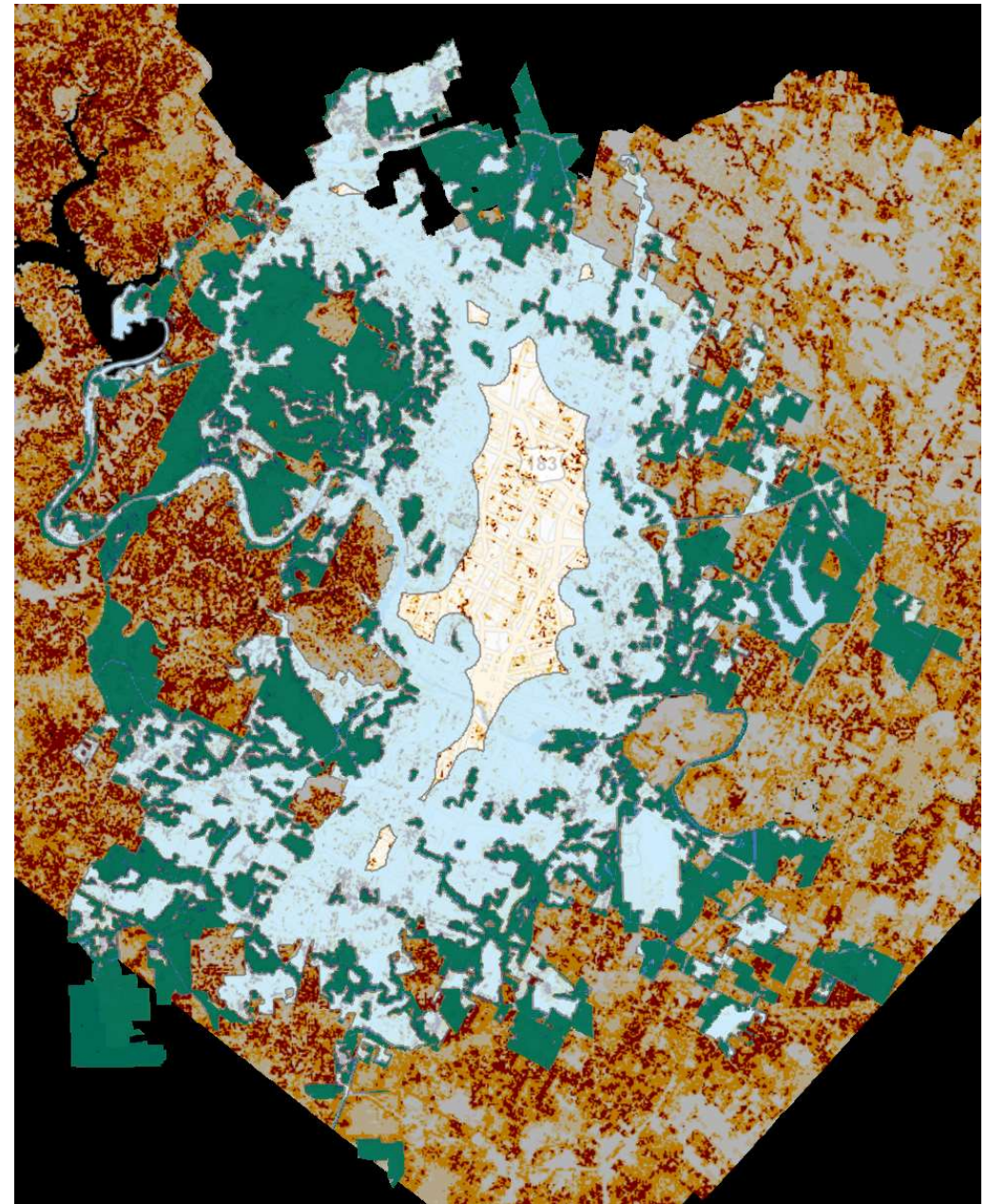
Green/Dark Blue = Wildland & Proximity Zones A & B

Light Blue = Proximity Zone C



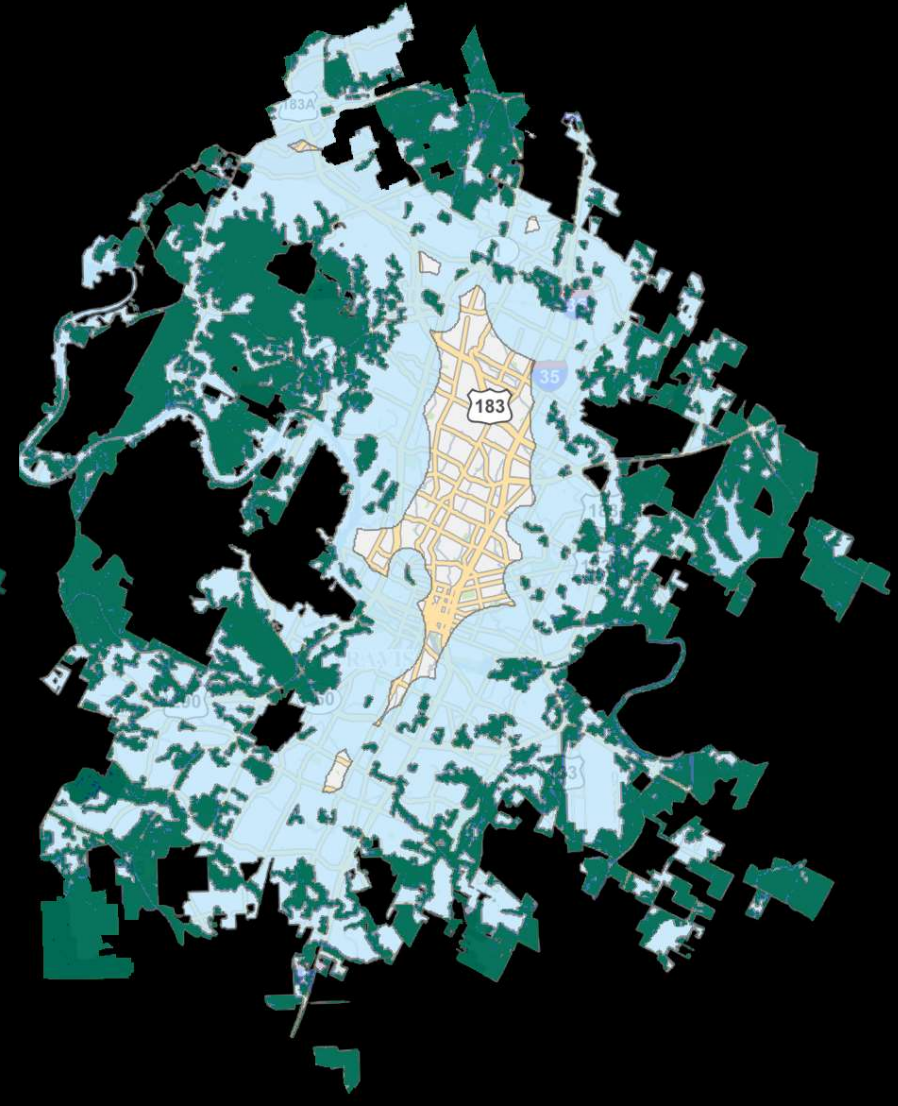
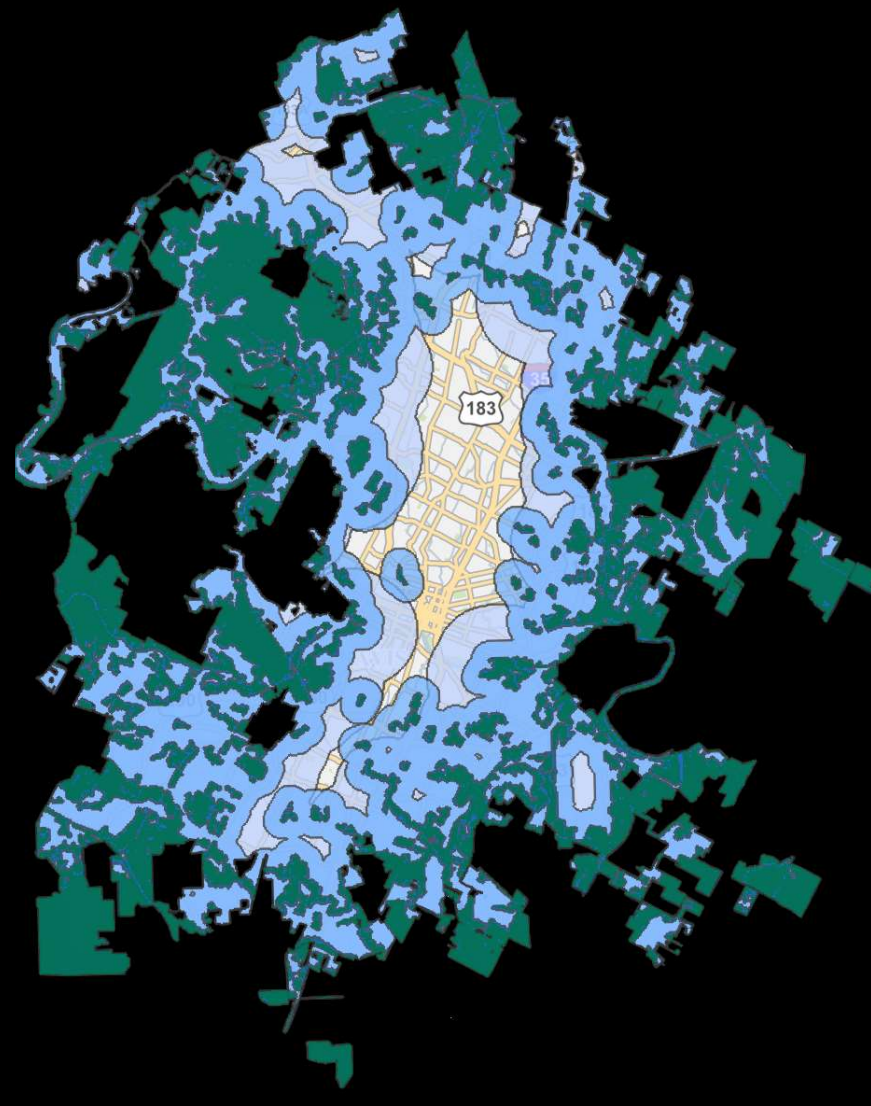
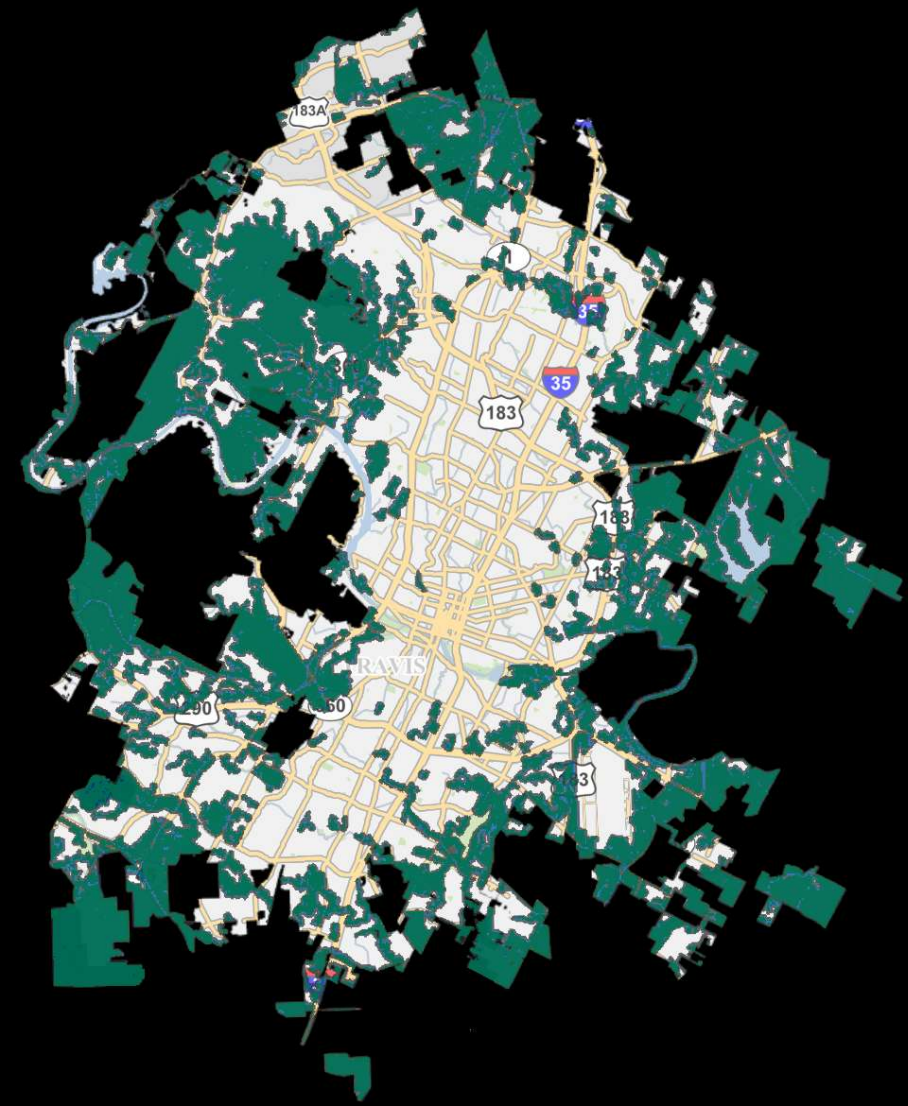


Austin-Travis County Wildfire Risk



WUI Map Option B - Overlay on Wildfire Risk Map





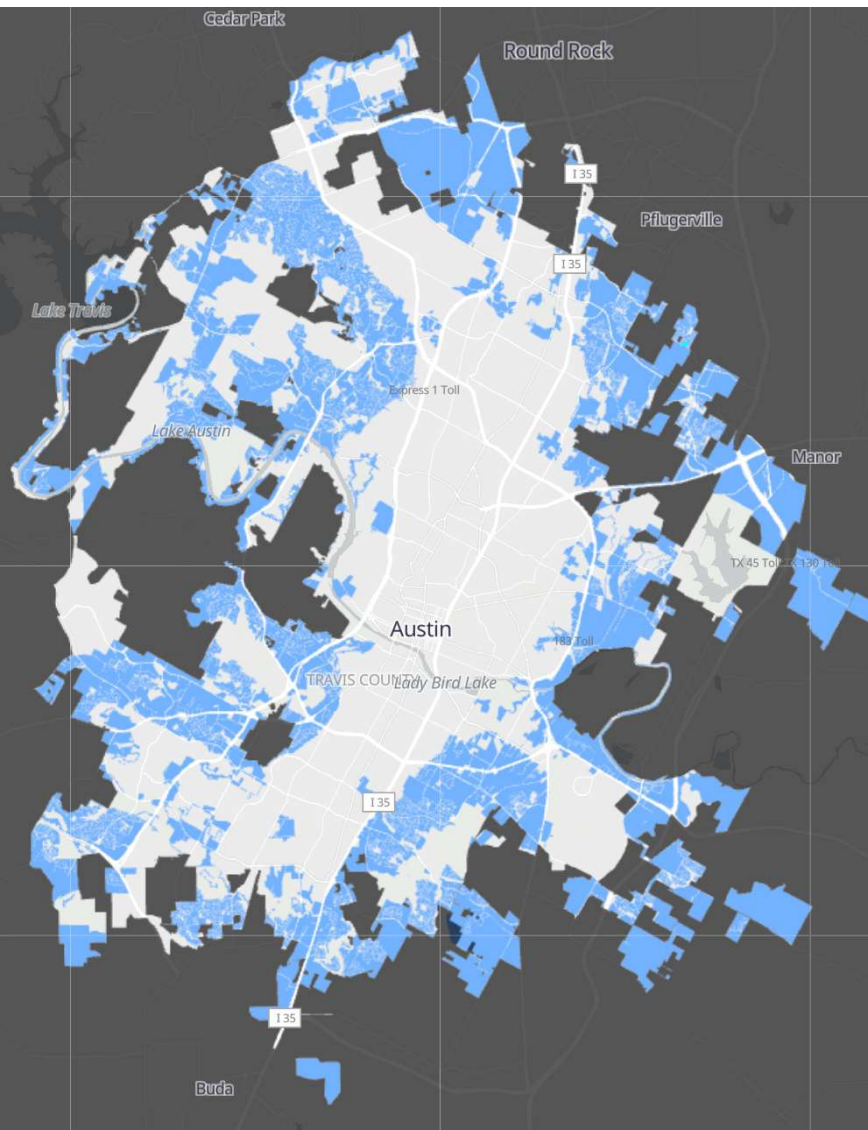
Wildland, Proximity Zones A & B -
150 feet from all wildland 10 acres or greater

Proximity Zone C -

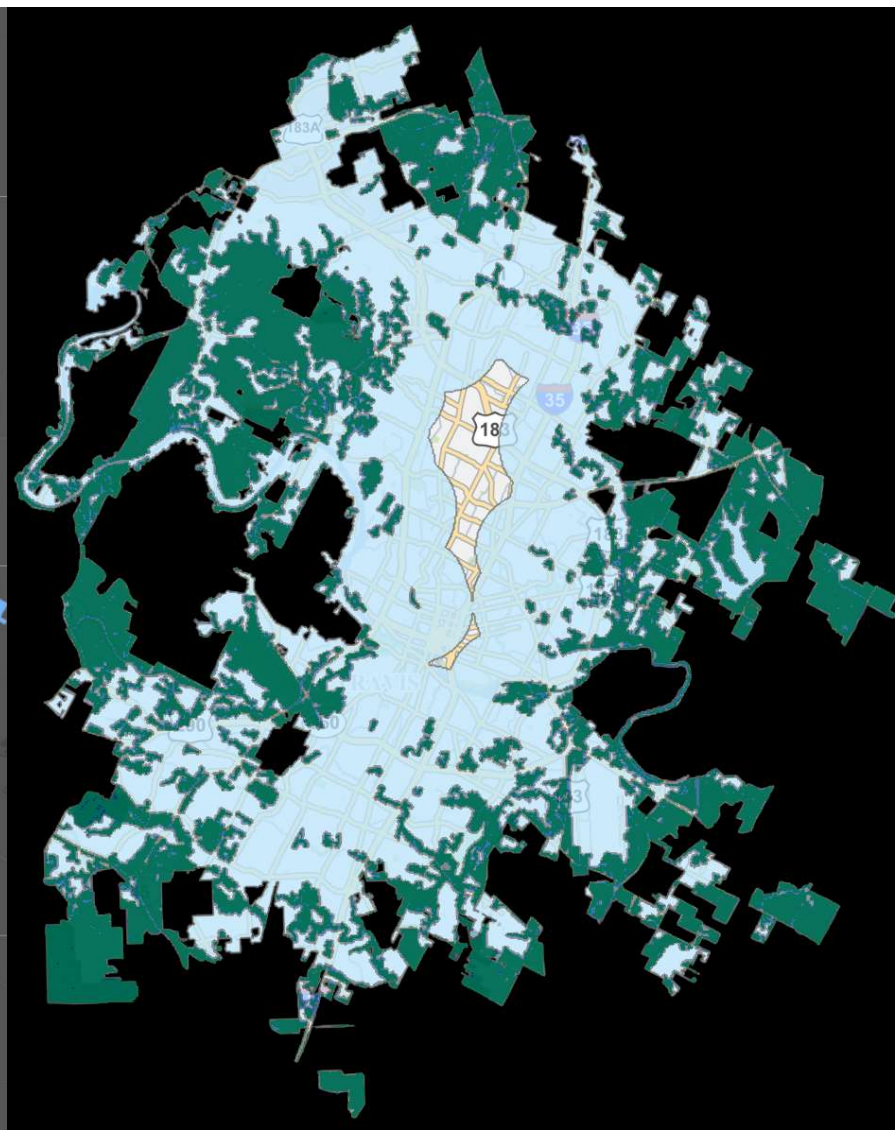
- 0.5 miles from all wildland 10 acres+*
- 1.5 miles from wildland 100 acre+*

Proposed 2024 WUI Map Option B

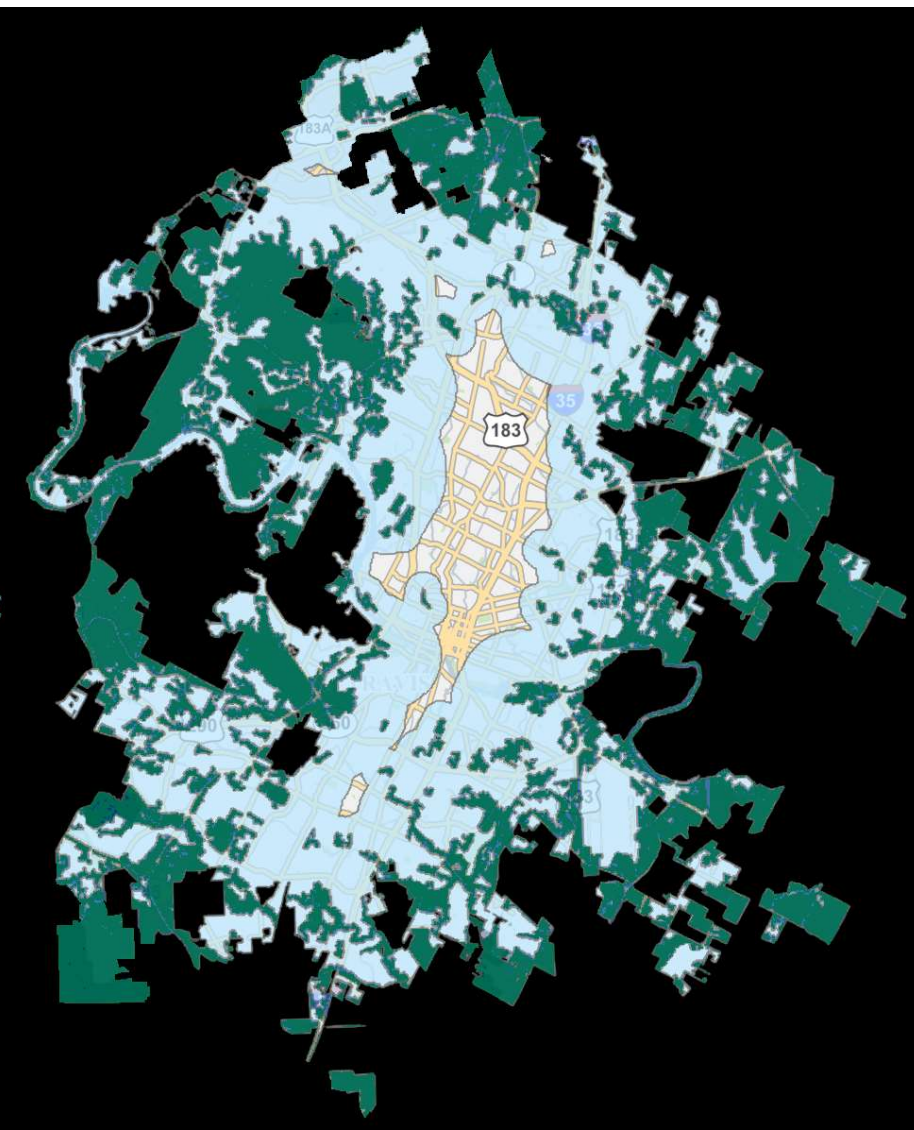




Current 2015 WUI Map
(Zones A&B: 40 acres; Zone C: 750 acres)



Proposed 2024 WUI Map
(Zones A, B, & C: 10 acres)



Proposed 2024 WUI Map Option B
*(Zones A&B: 10 acres;
 Zone C: 10 acres and 100 acres)*

Ember Ignition Zone (EIZ)

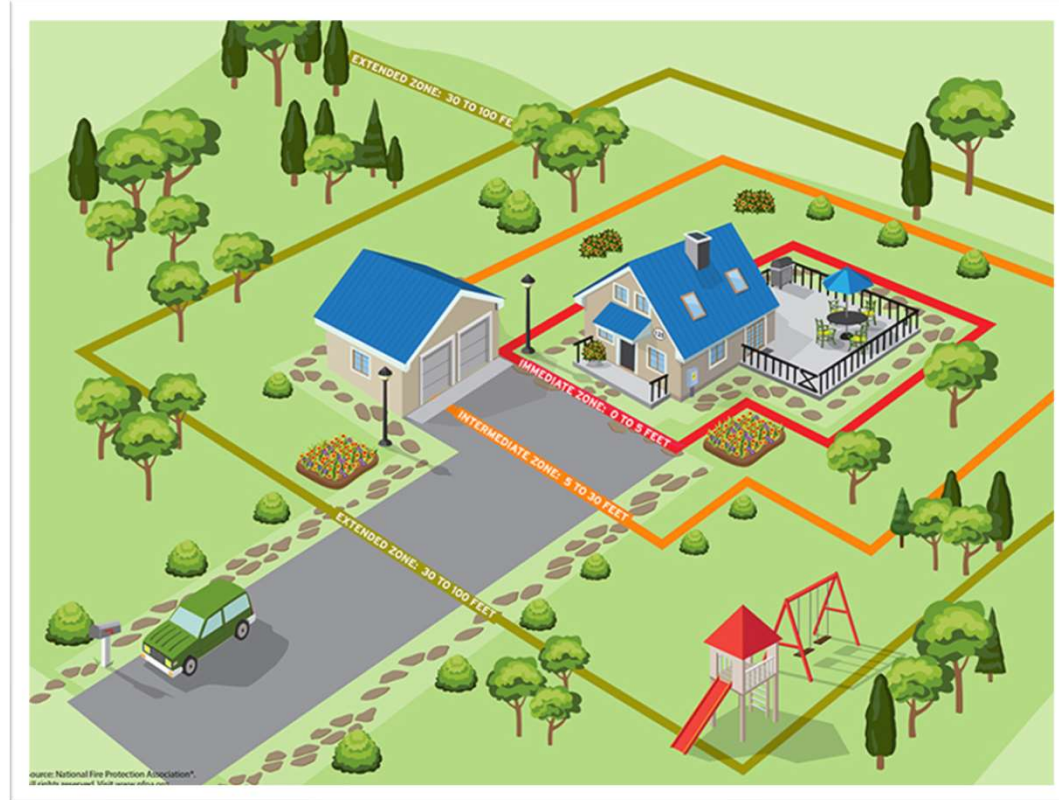
Section 603.2.1

Research from the National Fire Protection Association (NFPA) and Insurance Institute for Business & Home Safety (IBHS) show

- 5 feet around a structure has greatest impact
- Noncombustible zone can protect a building from ignition due to
 - direct flame
 - radiant heat
 - wind-blown embers collecting at the base of an exterior wall or structure

<https://www.nfpa.org/education-and-research/wildfire/preparing-homes-for-wildfire>

<https://ibhs.org/wildfire/near-building-noncombustible-zone/>



Ember Ignition Zone (EIZ)

Section 603.2.1

Wildfire Defense Mesh, IBHS
Combustible Vs Non-Combustible
Burn Demonstration

- Right Side: Traditional wood deck, vegetation, wood mulch
- Left Side: Noncombustible zone with ignition-resistant deck, Wildfire Defense Mesh skirting, rock mulch



Ember Ignition Zone (EIZ)

Section 603.2.1

The **Ember Ignition Zone (EIZ)** requires a 5-foot wide, noncombustible area to surround all structures and appendages. 603.2.1.

The EIZ surface is gravel, pavers, or other non-combustible materials and maintained free of all combustible materials at all times. Artificial turf may not be used in the EIZ, and if used within any defensible space area must have Class A rating per ASTM E108.

Exceptions:

- Protected and Heritage trees are allowed to remain in all existing conditions.
 - New construction should aim to maintain appropriate distance from such trees.
 - Protective mulch for critical root zone (CRZ) is allowable during construction and shall be removed at the completion of construction.
- For structures of Type I & II construction, the EIZ shall only be required 10 feet to each side of required egress points of the structure.



| Proximity Zone A Section 504 | Proximity Zone B Section 505 | Proximity Zone C Section 506 |
|---------------------------------|---|---|
| Roof & Accessories | Roof & Accessories | Roof & Accessories REDUCED sloped roof underlayment |
| Skylights | Skylights | Skylights |
| Protection of Eaves | Protection of Eaves REDUCED | Protection of Eaves REDUCED eaves & rafter tails |
| Gutters & Downspouts | Gutters & Downspouts | Gutters & Downspouts |
| Appendages & structures | Appendages & structures REDUCED distance | Appendages & structures REDUCED distance & protection at slopes >10% |
| Ventilation | Ventilation | Ventilation REDUCED - soffit vents allowed |
| Boat Docks REDUCED | Boat Docks | Boat Docks |
| Underfloor Enclosure | Underfloor Enclosure | Underfloor Enclosure REDUCED |
| Exterior Walls | Exterior Walls REDUCED flashing | |
| Exterior Glazing | | |
| Exterior Doors | | |



*REDUCED items are a reduction compared to standard Proximity Zone A Ignition-Resistant (IR) Construction Requirements

Roof & Accessories

Sections 504.2 (Zone A), 505.2 (Zone B), 506.2 (Zone C), and 507.1 (Roof Replacement)

Modified, reduction:

- The entire roof shall comply when 50% or more of the roof is replaced.
- Roof Assemblies in Zone C:
 - Sloped roofs may reduce underlayment to 30 lb felt.

Added:

- Raised-deck systems shall meet **new** 2024 IBC section 1511.9 – including residential structures.

Clarifications, 2015 WUIC interpretations:

- Woven roof valleys allowed as an option versus model code 36" wide 72-lb cap sheet.
- Skylights:
 - Housing shall be noncombustible.
 - Glazing shall be protected at all Zones.
- No wood roof coverings and no green roofs.
- Walkway pads shall not compromise the roof fire resistance rating.



Protection of Eaves

Sections 504.3 (Zone A), 505.3 (Zone B), and 506.4 (Zone C)

Created separate subsections for eave components

Eaves

- Zone A: added 5/8" Type X sheetrock as an option
- Zone B: added clarification that Zone A materials may be used
- Zone C: shall match Zone B requirements

Fasciae

- Zone A: 3/4" thick material protected by Ignition-resistant (IR) exterior finish. Per model code, backside of fascia protected by IR material or 2x lumber.
- Zone B & C: shall match Zone A requirements

Exposed Rafter Tails

- Zone A & B: Heavy timber, exterior wall shall be 1-hour rated from foundation to bottom of roof deck, roof deck shall be ASTM E 84 Class A rated material or noncombustible (48" min. either side of wall).
- Zone C: Heavy Timber

Added:

- **Gaps Between Materials** shall have ember protection similar to ventilation openings.
- **Exterior Ceilings** shall be built using ignition-resistant building materials that comply with Section 503.2.



Exterior Walls & Underfloor Enclosure

Sections 504.5 (Zone A), 505.5 (Zone B), and 506.3 (Zone C)

Modified:

- Zone A: Reverted to model code language
 - Result does not change requirements.
- Zone B: Reverted to model code language
 - Requirements now match Zone A.

Modified, reduction:

- Zone C: Underfloor enclosures may be constructed with the same material as exterior walls of Zone C.
 - No longer has to meet the more stringent Zone A or B exterior wall requirements.



Appendages

Sections 504.7 (Zone A), 505.7 (Zone B), and 506.6 (Zone C)

Clarifications, 2015 WUIC interpretations:

- Examples provided: decks, balconies, carports, pergolas, patio covers, awnings, canopies, and similar structures.
- Deck boards with gaps larger than 1/8" shall have ember protection, similar to ventilation openings.
- Underside of decks, not over a >10% slope, may be enclosed by an exterior wall/skirting to allow framing to be of any building/residential code approved material.
- Decks over a >10% slope shall have the underside enclosed to the ground.
 - Protected ventilation openings can be provided.
 - Storage and access points are not allowed.
 - Ignition-resistant framing required at sloped areas, not exempted by underdeck enclosure

Continued...



Appendages

Sections 504.7 (Zone A), 505.7 (Zone B), and 506.6 (Zone C)

Modifications:

- **REDUCED:** Decks in Zone C will no longer have special requirements for steep slopes. A compliant underdeck enclosure allows framing to be constructed of any building or residential code allowed material.
- Zone A: All unenclosed accessory structures and appendages shall be ignition-resistant. *See changes to 504.11 Detached Accessory Structures.*
- Zone B: All unenclosed accessory structures and appendages within 30' of a habitable building shall be ignition-resistant. *See changes to 505.11 Detached Accessory Structures.*
- Expiration of initial code launch leniency:
 - Residential fence requirements. All fences shall be ignition resistant within 10' of structures.
 - Residential appendages in Zones B and C. All appendages, such as exterior columns, shall comply with ignition-resistant requirements. Each Zone is outlined separately to clarify any differences.



Doors & Windows

Sections 504.8 (Zone A), 505.8 (Zone B), and 506.7 (Zone C)

Modified:

- Zone A: Reverted to model code language.
 - Result does not change requirements.
- Zone B and C: Clarification, *2015 WUIC interpretation*
 - Skylights shall be tempered glass, multilayered glazed panels, glass block, or have a 20-minute fire rating.
 - Other glazing and door requirements unchanged and shall not require protection.



Ventilation

Sections 504.10 (Zone A), 505.10 (Zone B), and 506.5 (Zone C)

2024 IWUIC model code has been clarified with separate sections for Performance Requirements and Prescriptive Requirements.

Modified, 2015 WUIC interpretation:

- Correction to model code requirements to clarify soffit vents are not allowed in Zones A or B.

Clarification, 2015 WUIC interpretations:

- Ventilation opening types that require protection: exhaust, outside air intake, enclosed attics, gable ends, ridge ends, underfloor ventilation, foundations, and crawl spaces.



Miscellaneous

Added, reduction:

- **Boat docks** shall only be required to have noncombustible or ignition-resistant walking surfaces and Class A roof assemblies as required by the Proximity Zone. **Sections 504.11.2 (Zone A), 505.11.2 (Zone B), and 506.8.2 (Zone C)**

Modified:

- **Detached accessory structures** shall comply with the requirements specific to the Proximity Zone. **Sections 504.11 (Zone A), 505.11 (Zone B), and 506.8 (Zone C)**
- **Driveways, 202 Definitions, 403.2, 403.2.3**
 - Required for Group R-3 buildings >150' from fire apparatus access road where a new fire lane is not otherwise provided
 - Group R-3 buildings >200' from fire apparatus access road require a new fire lane or may provide a driveway and automatic fire sprinklers
 - Serve up to three buildings and three dwelling units max, otherwise a Fire Lane is required
- **Extreme Hazard Condition clarified, 502 and Appendix C**



2024 International Wildland Urban Interface Code

Proposed Local Amendments

Questions?

Thank you for your time!

