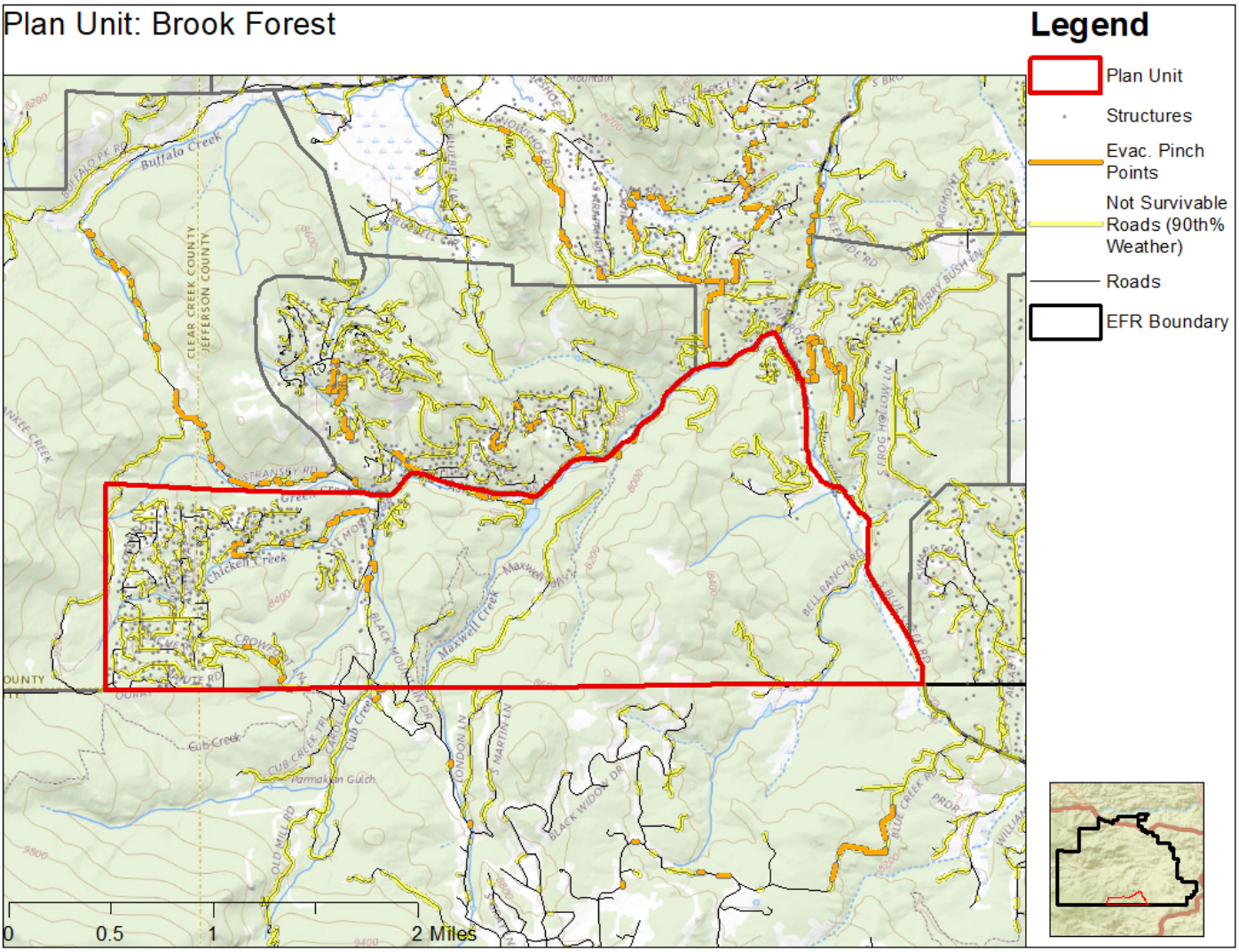
Brook Forest– Plan Unit 23

Rating: Extreme

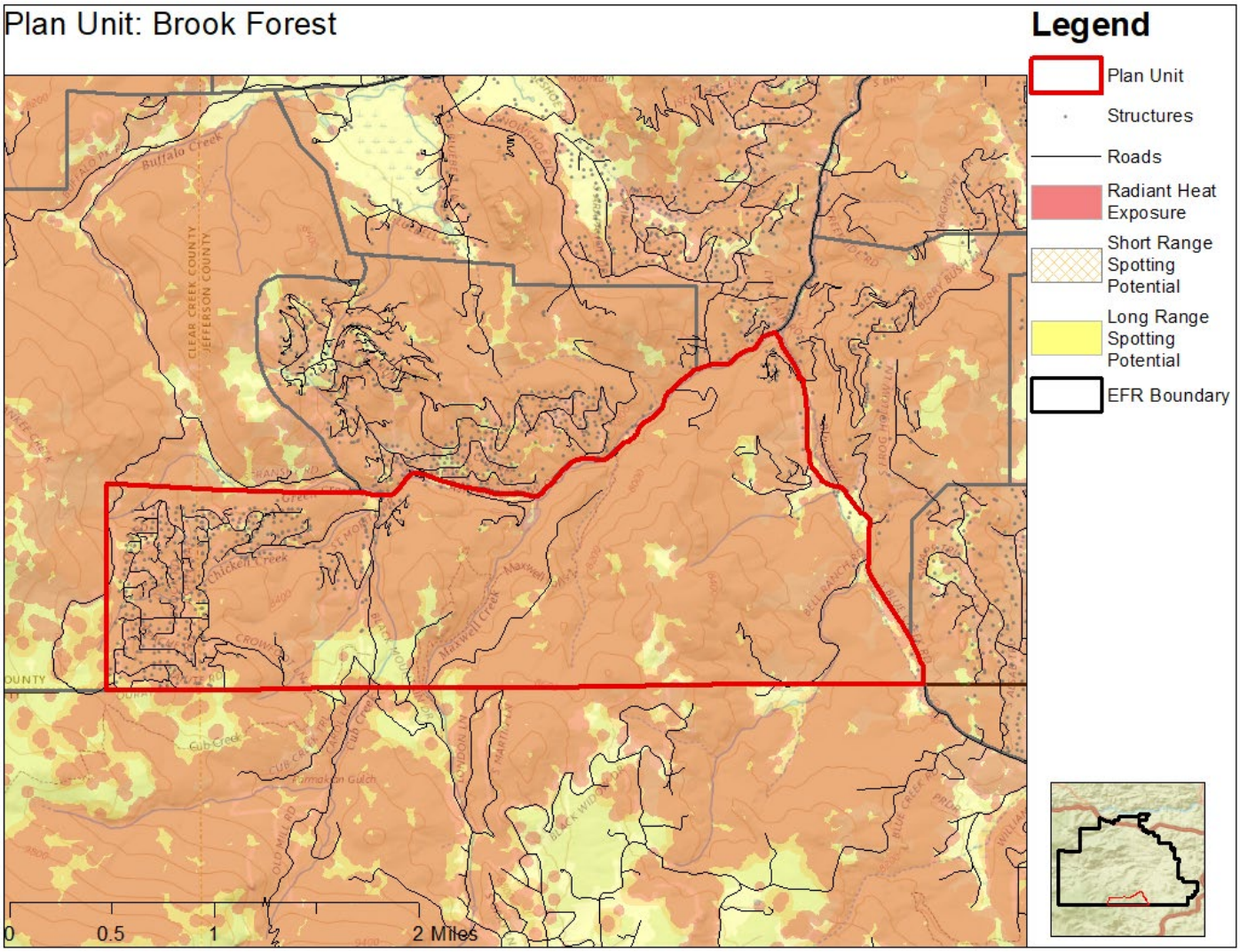
Evacuation Data Summary					
Number of Structures	Number of Cars	Average Time to Evacuate (min)	Median Time to Evacuate (min)	Minimum Time to Evacuate (min)	Maximum Time to Evacuate (min)
408	925	79	83	45	93

Brook Forest has a single point of ingress/egress from this area and extreme wildland fuel density both in and adjacent to Brook Forest. This neighborhood is a major concern and high priority for mitigation action. Evacuation planning should be a high priority for every resident. Most homes sit in a drainage without established defensible space or obvious home hardening improvements. Thick mixed conifer surrounds most structures, though higher elevations transition to primarily Lodgepole Pine, which burn in large stand replacing wildfires.

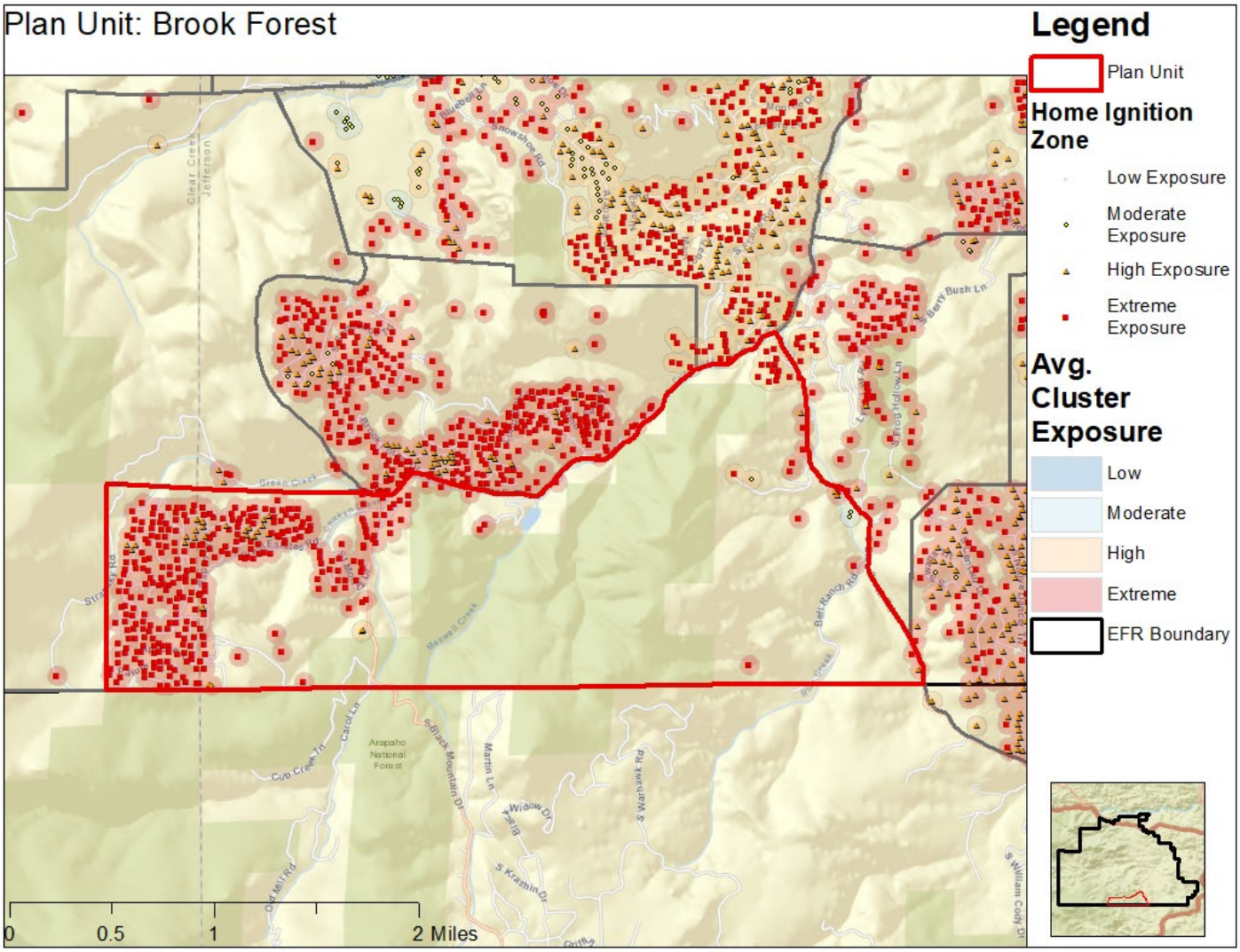
Evidence of fuels work is apparent throughout by removal of younger age class Lodgepole Pines leaving an even-aged mature stand with moderately spaced live trees. There are places with standing dead and down trees, which should be thinned and removed. Overall, defensible space is adequate but undeveloped stands should be treated as well.



Brook Forest has many Evacuation Pinch Points. Fuels overall in Brook Forest are extremely dense, and topography will make both treatment and evacuation difficult. S Brook Forest Road is again one of the most congested and non-survivable roads in Evergreen and should be high on the priority list. The other locations are along Forest Estates Road and Black Mountain Drive. With the time to evacuate and likely congestion points, Brook Forests roads are one of the highest priority in the district.



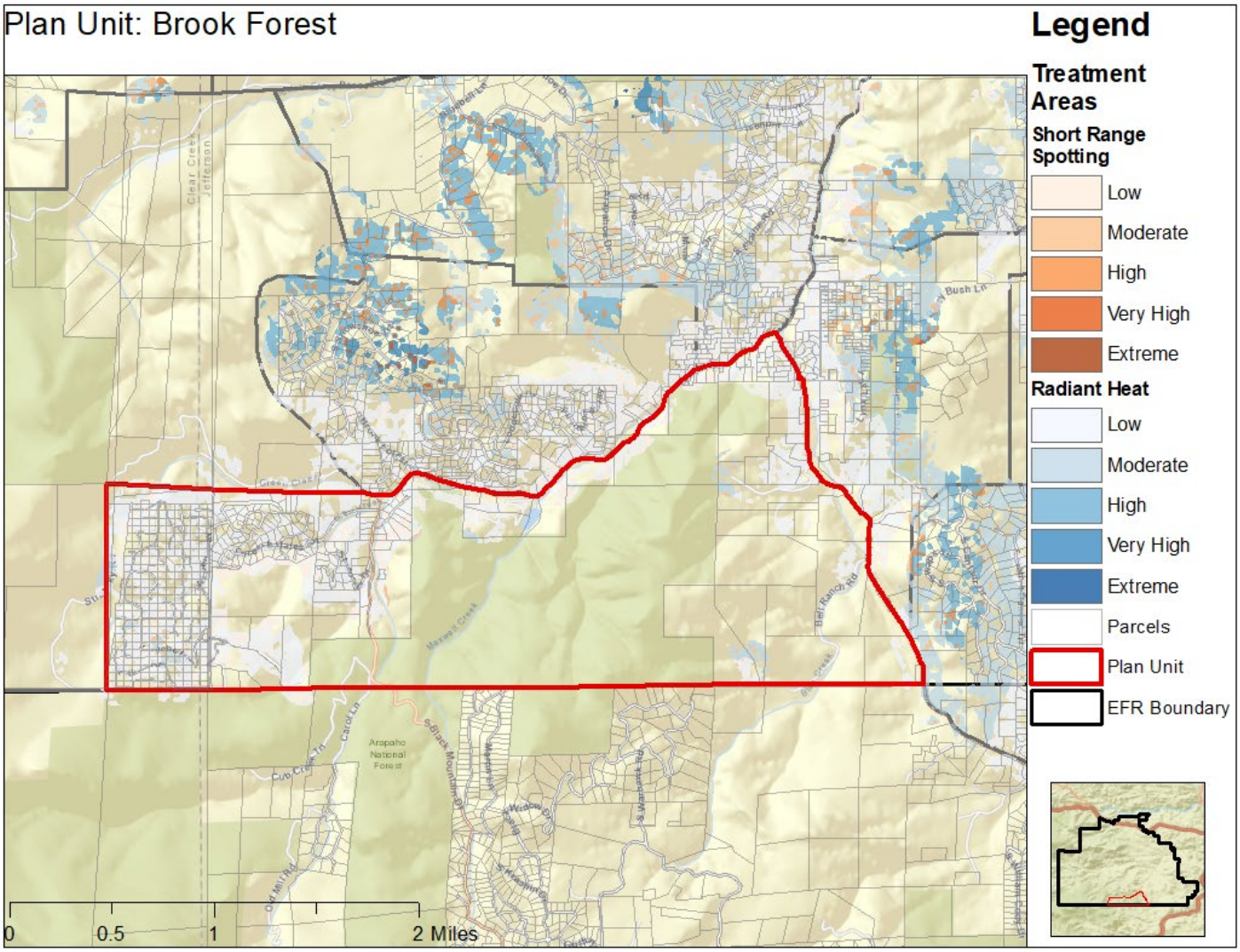
Radiant Heat exposure is designed to show neighborhoods where vegetation will create fire behavior extreme enough to ignite home materials. Short- and long- range spotting is when embers travel a distance from the fire and continue its spread away from the main fire –this can be a deluge of embers that is difficult to combat. These ignition risks are present to extreme degrees in Evergreen Fire Protection District. Different visualizations of this data are mapped on the following pages and will give residents a clearer path forward to mitigation.



Ember exposure outputs (radiant heat, short range spotting, and long-range spotting, as seen above) were overlaid with structure points buffered as the Home Ignition Zone (100 ft). Structures in which greater than 50% of the home ignition zone was covered by radiant heat, short range spotting, or long-range spotting were defined as being at risk from that hazard. Extreme exposure means all three factors are present, as the model indicates.

These values were then aggregated at the structure cluster level which are dissolved 100 m buffers of structures. If a structure's 100m buffer intersects a different structure's buffer, they are part of the same cluster. Average exposure to all the structures in the cluster is displayed behind the structure point on the above map. This means that even though some structures may be a lower risk due to the wildland fuels adjacent to their home, they will be still at extreme risk as home to home ignition is extremely likely.

Brook Forest has almost all extreme exposure structures, and the average cluster exposure is extreme. This extreme cluster exposure means homes that are at lower risk from radiant heat & short- and long-range spotting are put at higher risk by their connection to other, higher risk structures. Massive work around mitigation needs to happen in this Plan Unit with home hardening, defensible space, and large-scale wildland fuel treatments to protect fire from getting into this community and spreading further outward.



Radiant heat and short-range ember exposure are displayed and filtered by accessible treatment areas (by slope and distance to a roadway). High to Extreme risk areas displayed in those maps are highest priority to protect from radiant heat and short-range spotting, however, this does not negate the need for defensible space treatment across the landscape.

In Brook Forest, locations of high risk are not easily treatable due to slope. One option for this Plan Unit would be to treat all treatable areas, shown above on this map, and reduce the risk of wildfire transmission while improving tactical firefighting options. The other option would be to work with a hand crew and do fuel treatment in the areas of highest risk on steeper slopes, surrounding homes, and structures with extreme risk.

Shelter-in-place

Due to extreme wildland fuels and no areas mitigated to natural forest stand conditions, this Plan Unit has no location to recommend sheltering during a wildfire. Evacuation planning and roadway improvements are a much better investment for Brook Forest.